

# **DESERT VALLEY COMPANY**

**7030 GENTRY ROAD  
CALIPATRIA, CALIFORNIA 92233**

April 24, 2020

Mr. Frank Gonzalez, P.E., A.E.O.  
California Regional Water Quality Control Board  
73-720 Fred Waring Drive, Suite 100  
Palm Desert, California 92260

**Subject:      Desert Valley Company Class II Solid Waste Management Facility  
Quarterly Detection Monitoring Report for January - March 2020  
Regional Board WDID No. 7A 13 2197 001  
Board Order No. R7-2016-0016**

Dear Mr. Gonzalez:

Attached is the Quarterly Detection Monitoring Report as required by the Waste Discharge Requirements Board Order (R7-2016-0016) for the Desert Valley Company monofill facility. This quarterly monitoring report has received appropriate technical review and approval by a California Registered Professional Engineer/Geologist.

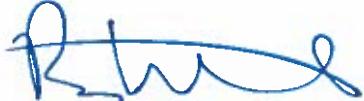
Per the notification made to the Regional Water Quality Control Board (RWQCB) on December 20, 2019, fourth quarter monitoring of the vadose system demonstrated high moisture levels from the Z-2 vadose tube at the depth of 52 feet below ground surface (bgs). Abnormal moisture readings resulted from a column of rain water inside the tube starting at 52 feet (bgs) and extending down to the bottom of the well to depth of 66 feet below ground surface. Based on the amount of water left inside the Z-2 tube after the third quarter (2019) the height of the column of water increased by 11 feet. On December 20, 2019, conductivity and pH field tests were performed. Chemical tests showed that the chemical profile of the liquid inside the Z-2 tube did not match that of leachate generated inside closed Cell I or Cell 2 but resembled that of storm water run-off. In response to the continued detection of storm water in the well and in observance of request made by the RWQCB, CalEnergy selected proposal from Geosyntec Engineering to perform an integrity investigation of the vadose tube. Findings of the inspection will be used as the basis for a Repair/Replacement Work Plan to be submitted to the RWQCB in the upcoming weeks.

"I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties

for submitting false information, including the possibility of fine and imprisonment for knowing violations".

If you have any questions, please contact Anetha Lue at (760) 348-4275 or by e-mail at [Anetha.Lue@calenergy.com](mailto:Anetha.Lue@calenergy.com).

Sincerely,



Bryan Whitcomb  
General Manager

Attachments

cc: Zakary Owens, Colorado River Regional Water Quality Control Board  
Jeff Lamoure, I.C. Public Health Department via Email  
Patricia Valenzuela, I. C. Development and Planning Services via Email  
Anetha Lue  
Jon Trujillo  
Yanqiu Wu  
Sam Rubin  
Osvaldo Flores  
Environmental File

## **Table of Attachments**

Attachment A - Summary of Conditions and Responses

Attachment B - Quarterly Determination of Ground Water Flow Rate/Direction

Attachment C - Site Map

Attachment D - Quarterly Tonnage Report

Attachment E - Ponded Liquid Summary

Attachment F - Quarterly Ground Water Monitoring Data

Attachment G - Leachate Collection System Monitoring Data

Attachment H - Leak Detection System Monitoring Data

Attachment I - Quarterly Vadose Zone Monitoring Data

Attachment J - California Registered Professional Geologist Review

## **Attachment A**

### **Summary of Conditions and Responses**

# DESERT VALLEY COMPANY

*Quarterly Waste Discharge Report*  
*Quarter 1, 2020*

## Part I

### E. Reports to be filed with the Regional Board

#### E.1. Detection Monitoring Report

##### E.1.a. Letter of Transmittal

**E.1.a.i.** During the period January to March 2020 no violations were recorded other than the matter discussed in the cover letter.

**E.1.a.ii.** *No schedule or plan for correcting violations exists at this time*

**E.1.a.iii.** *Statement included (see cover letter)*

##### E.1.b. Compliance evaluation summary

###### E.1.b.i. Velocity and direction of groundwater flow

- *Please see Part II, B.9. and Attachment "B"*
- *CalEnergy uses the USEPA online tool to calculate the velocity and direction of groundwater flow. During first quarter 2020, groundwater was observed to flow to the north-northeast at an approximate calculated velocity of 3.85 feet per year.*

###### E.1.b.ii. Pre-sampling Purge for Samples Obtained From Wells

- *Monitoring wells addressed by this report are sampled by utilizing bladder pumps located in the wells. The wells are purged at a rate of approximately 0.5 gallons per minute. The amount of water purged from each well during sampling events is minimal; therefore purged water is disposed of in the on-site leachate pond.*
- *Turbidity, pH, conductivity and temperature measurements are performed in the field with a Symphony meter. The samples are collected in a sample cup, and a pH, conductivity, and temperature probe is placed in the samples to obtain the required readings. A Symphony pH meter, calibrated with 4 and 7 pH buffers, is used for pH measurements. A Symphony conductivity meter, calibrated using a 50,000 micro-siemens per centimeter standard, is used for conductivity measurements. Both meters are calibrated prior to each sampling event.*
- *The water levels in the wells are measured by a portable water level indicator. The total depth of the well is also recorded at every sampling event. Please note that all monitoring wells recovered to at least 80% of the static level prior to collecting samples this quarter.*

#### E.I.b.iii. Sampling

- Please see Attachment "F" for groundwater monitoring field forms. Monitoring points addressed by this report are sampled by utilizing bladder pumps located in the wells. Sample volumes and analysis conducted are listed below. A duplicate is collected for one well during each sampling period. Collected samples are stored on ice.
  - 500 ml raw sample (plastic bottle) - TDS, chloride, and sulfate
  - 250 ml sample preserved with 1% nitric acid, filtered with inline 0.45 micron filter (plastic bottle) - EPA 200.8 arsenic, barium, cadmium, lead, sodium, and zinc
  - 1,000 ml raw sample (plastic bottle) - Gross alpha, gross beta, and gamma scan
- The sampler has completed a two-week in-house training on sampling groundwater monitoring and background wells

**E.1.c.** Map showing locations of observation stations, monitoring points and background monitoring points.

- Please see Part II, A.4. and Attachment "C"

**E.1.d.** Sample collection, storage, and analysis were performed according to the most recent version of Standard USEPA methods, and in accordance with an approved sampling and analysis plan. All sample analysis was performed by laboratories, which are approved by the State of California. All monitoring instruments and equipment were properly calibrated and maintained to ensure accuracy of measurements. The results of the analyses are compiled in Attachment F of this report.

**E.1.e.** Physical stormwater run-off/run-on controls are inspected routinely and are in good condition. The current Storm Water Pollution Prevention Plan for the facility is adequate for stormwater run-off control.

**E.1.f.** No reportable spills/leaks occurred during this reporting period.

### Part II: Monitoring and Observation

#### A. Waste Monitoring

**A.1.** Table reporting the amount of waste received in tons for each month of the previous reporting period.

- The waste consists mainly of non-hazardous geothermal filter cake resulting from filter press operations at geothermal power plants. Other

*non-hazardous waste streams permitted under the Solid Waste Facility Permit include drilling muds and cutting from geothermal well construction/reconstruction, soils contaminated with geothermal wastes and incidental plastic sheeting/materials used in transfer vehicles.*

- Please see Attachment D.

**A.2.** Table representing the amount of ponded liquid removed from the Monofill for each month of the previous reporting period. If no liquid is present to remove then the statement of “No liquids present” shall be put in the report

- Please see Attachment E.

**A.3.** Describe the general condition of the Monofill (general maintenance, condition of berms etc.).

- *The general condition of the Monofill is good.*
  - *General Maintenance - Loading and unloading areas are free of spills. Liner System Components are free of punctures and rips.*
  - *Condition of Berms - All dikes and berms are structurally sound.*

**A.4.** A map showing the locations of all observation stations, groundwater monitoring wells, vadose wells, and any other monitoring points.

- Please see Attachment C.

## **B. Groundwater Sampling and Analysis for Detection Monitoring**

*With respect to provision C.3. of this Board Order (R7-2016-0016) regarding the analysis to evaluate the suitability of W306 as a background well to establish permit limits for constituents of concern, a December 15, 2016 Trend Analysis Report included a recommendation for historical groundwater data from each groundwater monitoring well to serve as the background concentrations for each well. The Trend Analysis further stated that it is not appropriate to use an up-gradient well screened in a different lithological unit (e.g., W306) as a background well when evaluating whether a release may have occurred from DVC. The Colorado River Basin Regional Water Quality Control Board approved the Trend Analysis Report in a letter dated October 12, 2017.*

**B.1.** Groundwater Surface Elevation and Field Parameters- *Field parameters and groundwater elevation were recorded in the field in accordance with California ELAP rulings. Groundwater elevation is measured prior to purging of the wells. Sampling equipment is decontaminated between sampling of wells. Excess water purged from the wells is discarded into the leachate ponds. In addition, the following sampling procedures are pursued while taking readings of field parameters:*

- a. pH, temperature, and conductivity are stabilized within 10 percent, and
- b. turbidity has been reduced to 10 NTUs or the lowest practical levels achievable.

- Please refer to Attachment F for the Field Data Sheets and analytical data summaries.
- Monitoring of turbidity began during the third quarter of 2016 as required by implementation of Board Order No. R7-2016-0016, effective June 30, 2016.

**B.2.** Ground Water Sample Collection- *Groundwater samples are collected from all monitoring points and background monitoring points. All wells are purged and allowed to recover to 80% of the initial static water level before sampling is performed. The wells are equipped with dedicated bladder pumps supplied with compressed gas. Samples are labeled, logged on chain-of-custody forms and placed in cold storage if necessary.*

**B.3.** Five-Day Sample Procurement Limitation- *Groundwater samples from all the wells are collected within five (5) days.*

**B.4.** Groundwater Monitoring Parameters for Detection Monitoring – *All quarterly groundwater samples were analyzed for all parameters and constituents listed in Part II.B.4.*

**B.5.** *All monitoring points assigned to Detection Monitoring are sampled quarterly as outlined in Part II.B.5. and Part II.B.4.*

**B.6.** Data Analysis

*All historical monitoring data is statistically reviewed using a 95% Upper Confidence interval method.*

**B.7.** Monitoring Points and Background Monitoring Points- The discharger shall sample the Monitoring Points and Background Monitoring Points in accordance with the sampling schedule given under Parts II.A [B].5.

- Please see Attachment F for all analysis results. Attachment C contains a site facility map illustrating the locations of the monitoring wells.

**B.7.a.** Up-gradient Well:

- Well W306

**B.7.b.** Down-gradient Wells

- Wells: W302, W305, W309, W307, W308, W01, W10A, W09A, W11 and W12

**B.8.** Initial Background Determination - For the purpose of establishing an initial pool of background data for each Constituent of Concern at each Background Monitoring Point (Title 27, Section 20415(e)(6))

**B.8.a.** Whenever a new Constituent of Concern is added to the Water Quality Protection Standard, the Discharger will sample quarterly for at least one (1) year.

- *No new Constituent of Concern has been added this quarter.*

**B.8.b.** Whenever a new Background Monitoring Point is added, the Discharger shall sample at least quarterly for at least one (1) year for all Constituents of Concern and Monitoring Parameters.

- *No new Background Monitoring Points have been added this quarter.*

**B.9.** Quarterly Determination of Ground Water Flow Rate/Direction (Title 27, Section 20415(e)(15)

*The Desert Valley Company monofill facility is located on the west side of the floor of the Imperial Valley less than 10 miles southwest of the Salton Sea. Because the Salton Sea is maintained at a stage of -220 ft Mean Sea Level (MSL), which is lower than all groundwater elevations measured onsite, northerly to northeasterly groundwater flow toward the Salton Sea is expected.*

*Groundwater elevation data from 11 site monitoring wells was used to calculate groundwater gradient at the Desert Valley Company monofill. Gradient magnitude and flow direction were calculated by utilizing the hydraulic gradient calculator available on the Environmental Protection Agency website ([www.epa.gov](http://www.epa.gov)).*

*The following equation was used to determine the velocity of the groundwater flow:*

*Where:*  $v = - Ki/n_e$

*v = velocity of groundwater flow*

*K = hydraulic conductivity*

*i = hydraulic gradient*

*n<sub>e</sub> = effective porosity*

- *Please see Attachment B*

**B.10.** Direct Monitoring of All Constituents of Concern Every Five (5) Years

- *As required, "Direct Monitoring" for all Constituents of Concern Five Year Report was submitted to the RWQCB on March 12, 2020.*

## C. Leachate Collection and Removal System (LCRS) Monitoring

**C.1.** The LCRS shall be inspected weekly and any liquid present shall be removed and stored in either an above ground storage tank or lined surface impoundment.

- *Per Appendix M of the Final Closure and Postclosure Maintenance Plan for Cell I and II, quarterly inspections of the LCRS are required. The liquid removed shall have field Electrical Conductance (EC) and pH readings taken and recorded.*

- *Liquid removed is stored in the on-site leachate pond.*
- *Please see Attachment G*

**C.2.** A table presenting the amount of liquid removed from the LCRS for each month of the reporting period.

- *Please see Attachment G*

## **D. Leak Detection System (LDS) Monitoring**

**D.1.** Each LDS sump shall be monitored weekly and any liquid found shall be removed and stored in either an above ground storage tank or lined surface impoundments used for the LCRS liquids. The liquid removed shall have field Electrical Conductance (EC) and pH readings taken and recorded.

- *Per Appendix M of the Final Closure and Postclosure Maintenance Plan for Cell I and II, quarterly inspections of the LDS sump are required.*
- *Please see Attachment H*

**D.2.** A table presenting the amount of liquid removed from the LDS for each month of the previous reporting period.

- *Please see Attachment H*

**D.3.** Should an amount of liquid or analysis of the liquid removed from the LDS alert the discharger that a leak may be occurring from the primary liner, the discharger shall contact the Regional Board immediately.

- *There has been no indication that a leak may be occurring.*

## **E. Vadose Zone Monitoring**

**E.1.** The vadose zone monitoring system shall be monitored on a quarterly basis. *Vadose Z-1 was abandoned in 2004 to allow for the inter-tie between Cells 1&2.*

- *Please see Attachment I*

**E.2.** A written summary of the vadose zone data and what the data represents

- *Excluding the abnormal moisture readings collected from the Z-2 vadose tube first detected on November 1, 2018. No other significant changes in moisture have been detected in the vadose wells. Please refer to the event synopsis on the cover letter. All other data contained in this report is consistent with historical results.*

**E.3.** Should a moisture measurement alert the discharger that a leak may be occurring; the discharger will contact the Regional Board immediately.

- *There has been no indication that a leak may be occurring.*

## **Attachment B**

Part II B.9. - Quarterly Determination of Ground Water Flow Rate/Direction

## DVC Groundwater Flow Rate First Quarter (Q1) 2020

The average linear velocity of groundwater flow ( $v$ ) is a function of hydraulic conductivity ( $K$ ), hydraulic gradient ( $i$ ), and effective porosity ( $n_e$ ):

$$v = - Ki/n_e$$

v	=	-	K	*	i	/	n <sub>e</sub>
m/s			m/s				
3.72E-08			1.00E-06		0.01637		0.44

3.85 ft/y



## EPA On-line Tools for Site Assessment Calculation

### Hydraulic Gradient -- Magnitude and Direction

**Gradient Calculation** from fitting a plane to as many as thirty points

$$a x_1 + b y_1 + c = h_1$$

$$a x_2 + b y_2 + c = h_2$$

$$a x_3 + b y_3 + c = h_3$$

...

$$a x_{30} + b y_{30} + c = h_{30}$$

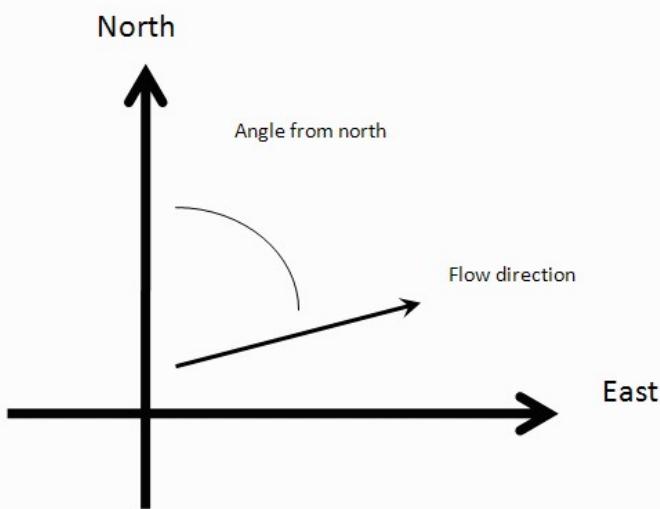
where  $(x_i, y_i)$  are the coordinates of the well and

$h_i$  is the head

$i = 1, 2, 3, \dots, 30$

The coefficients  $a$ ,  $b$ , and  $c$  are calculated by a least-squares fitting of the data to a plane

The gradient is calculated from the square root of  $(a^2 + b^2)$  and the angle from the arctangent of  $a/b$  or  $b/a$  depending on the quadrant



### Inputs

Example Data Set 1 Example Data Set 2

Site Name

Date

Calculation basis

Coordinates

I.D.	x-coordinate	y-coordinate	head	ft
1) W01	8635.7	8646.5	-180.00	
2) W09A	9130.0	9191.7	-181.01	
3) W10A	9262.5	9019.6	-180.60	
4) W11	8901.1	9127.4	-180.74	
5) W12	8714.4	9077.5	-180.46	
6) W302	8691.4	7795.5	-157.73	
7) W305	9927.9	7900.2	-168.77	
8) W306	9320.7	7045.1	-147.20	
9) W307	9349.9	8585.3	-169.02	
10) W308	9425.5	8249.9	-169.82	
11) W309	9780.6	7986.7	-169.41	
12)				
13)				
14)				
15)				
16)				
17)				

18)			
19)			
20)			
21)			
22)			
23)			
24)			
25)			
26)			
27)			
28)			
29)			
30)			

**Results**

Number of Points Used in Calculation	11
Max. Difference Between Head Values	10.31
Gradient Magnitude (i)	0.01637
Flow direction as degrees from North (positive y axis)	12.74
Coefficient of Determination (R <sup>2</sup> )	0.905

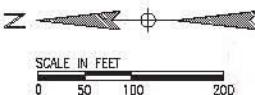
WCMS

Last updated on Tuesday, February 23, 2016

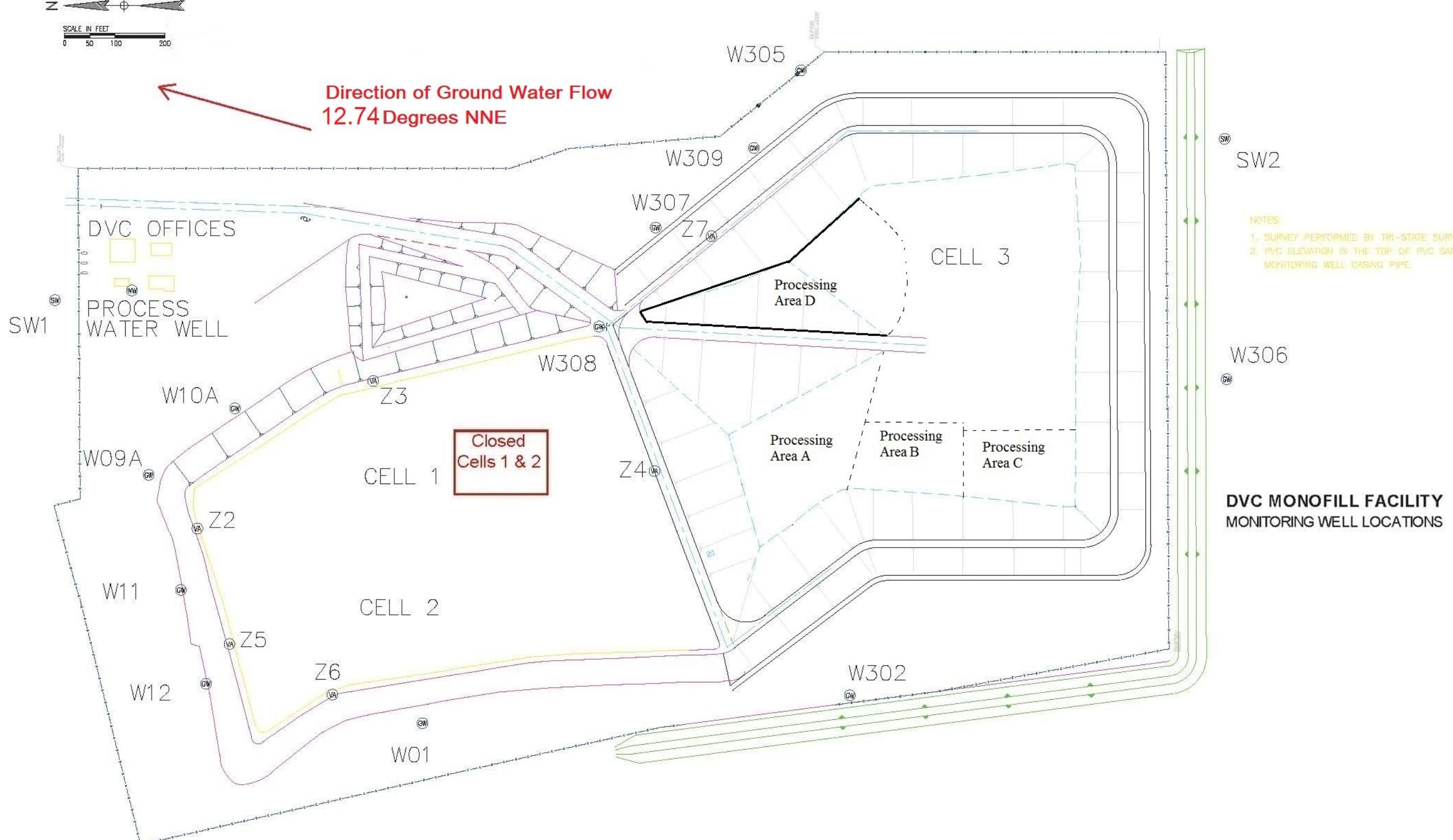
## **Attachment C**

**Part II A.4. & Part II.B.7 - Site Map**

TENTHS 0 INCHES 1 2 3 4 5 6 7 8 9 10 EIGHTHES 0 MM 10 20 30 40 50 60 70 80 90 100



**Direction of Ground Water Flow  
12.74 Degrees NNE**



**NOTES:**  
 1. SURVEY PERFORMED BY TRI-STATE SURVEYING, LTD.  
 2. PVC ELEVATION IS THE TOP OF PVC SAMPLING PIPE INSIDE MONITORING WELL CASING PIPE.

#### DVC MONOFILL FACILITY MONITORING WELL LOCATIONS



REV	DATE	DESCRIPTION	BY APRV
REVISION RECORD			

ISSUE	DATE	REV	DESCRIPTION
ISSUE RECORD			

ENGINEERING MGR:	K CAMPBELL
PROJECT MGR:	
PROJECT ENG:	
DRAWN BY:	J HULA
DRAWN DATE:	9/9/2010

DESERT VALLEY COMPANY MONOFILL FACILITY GROUND WATER MONITORING WELL PLAN
--

PROJECT NUMBER DRAWING NUMBER 18-1003-GA-22_0 SHEET NUMBER 020
--

## **Attachment D**

**Part II A.1 - Quarterly Tonnage Report**

*Desert Valley Company*  
*Monthly Summary Report*

Cells 1 and 2 have been closed and are not receiving anymore waste.

Cell 3			
Geothermal Filter Cake (tons)			
	January 2020	February 2020	March 2020
Elmore	0	0	0
Leathers	411.46	648.34	911.94
Region 2	1442.2	1225.2	950.63
Region 1	3853.4	823.32	1527.3
<b>TOTALS</b>	5707.06	2696.86	3389.87

## Attachment E

### Part II A.2 - Ponded Liquid Summary

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**Table: II.A.2. Cell 3 Ponded Liquid Removed**

Wednesday, April 22, 2020

Note: A "0" indicates that there was no liquid present.

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	<i>Gallons</i>
January 2020	0
February 2020	0
March 2020	0
<b>Grand Total</b>	0

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## Attachment F

Part II B.7. - Quarterly Ground Water Monitoring Data

DESERT VALLEY COMPANY  
TABLE OF MONITORING WELLS CHEMICAL ANALYSIS

W01						
Constituents	Units	1/23/2020	2Q20	3Q20	4Q20	Method
pH	Units	6.62	--	--	--	SM 4500-H+ B
Temperature	°C	27.3	--	--	--	EPA 170.1
Depth to Water from top of casing	ft	66.90	--	--	--	AS_100v01
Groundwater Elevation	ft	-180.00	--	--	--	
Specific Conductance	µS/cm	11,940	--	--	--	SM 2510 B
TDS	mg/L	7,960	--	--	--	SM 2540 C
Chloride	mg/L	3,130	--	--	--	EPA 300.0
Sulfate	mg/L	1,860	--	--	--	EPA 300.0
Sodium	mg/L	1,730	--	--	--	EPA 200.7
Arsenic	mg/L	0.00465	--	--	--	EPA 200.8
Barium	mg/L	0.0282	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000603*	--	--	--	EPA 200.8
Lead	mg/L	0.000310	--	--	--	EPA 200.8
Zinc	mg/L	0.0152	--	--	--	EPA 200.8
Turbidity	NTU	8.25	--	--	--	EPA 180.1

\*"Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

W09A						
Constituents	Units	1/22/2020	2Q20	3Q20	4Q20	Method
pH	Units	6.57	--	--	--	SM 4500-H+ B
Temperature	°C	28.1	--	--	--	EPA 170.1
Depth to Water from top of casing	ft	60.51	--	--	--	AS_100v01
Groundwater Elevation	ft	-181.01	--	--	--	
Specific Conductance	µS/cm	11,810	--	--	--	SM 2510 B
TDS	mg/L	8,380	--	--	--	SM 2540 C
Chloride	mg/L	3,170	--	--	--	EPA 300.0
Sulfate	mg/L	2,130	--	--	--	EPA 300.0
Sodium	mg/L	1,500	--	--	--	EPA 200.7
Arsenic	mg/L	0.0115	--	--	--	EPA 200.8
Barium	mg/L	0.0199	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000603	--	--	--	EPA 200.8
Lead	mg/L	0.000330	--	--	--	EPA 200.8
Zinc	mg/L	0.00912	--	--	--	EPA 200.8
Turbidity	NTU	5.25	--	--	--	EPA 180.1

\*"Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

DESERT VALLEY COMPANY  
TABLE OF MONITORING WELLS CHEMICAL ANALYSIS

W10A						
Constituents	Units	1/22/2020	2Q20	3Q20	4Q20	Method
pH	Units	6.49	--	--	--	SM 4500-H+ B
Temperature	°C	26.2	--	--	--	EPA 170.1
Depth to Water from top of casing	ft	62.60	--	--	--	AS_100v01
Groundwater Elevation	ft	-180.60	--	--	--	
Specific Conductance	µS/cm	13,830	--	--	--	SM 2510 B
TDS	mg/L	9,767	--	--	--	SM 2540 C
Chloride	mg/L	3,920	--	--	--	EPA 300.0
Sulfate	mg/L	2,120	--	--	--	EPA 300.0
Sodium	mg/L	1,830	--	--	--	EPA 200.7
Arsenic	mg/L	0.00815	--	--	--	EPA 200.8
Barium	mg/L	0.0246	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000603	--	--	--	EPA 200.8
Lead	mg/L	0.000480	--	--	--	EPA 200.8
Zinc	mg/L	0.00590	--	--	--	EPA 200.8
Turbidity	NTU	1.01	--	--	--	EPA 180.1

\*\*Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

W11						
Constituents	Units	1/23/2020	2Q20	3Q20	4Q20	Method
pH	Units	6.60	--	--	--	SM 4500-H+ B
Temperature	°C	28.1	--	--	--	EPA 170.1
Depth to Water from top of casing	ft	62.74	--	--	--	AS_100v01
Groundwater Elevation	ft	-180.74	--	--	--	
Specific Conductance	µS/cm	11,830	--	--	--	SM 2510 B
TDS	mg/L	8,245	--	--	--	SM 2540 C
Chloride	mg/L	3,190	--	--	--	EPA 300.0
Sulfate	mg/L	2,110	--	--	--	EPA 300.0
Sodium	mg/L	1,550	--	--	--	EPA 200.7
Arsenic	mg/L	0.0489	--	--	--	EPA 200.8
Barium	mg/L	0.0205	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000603	--	--	--	EPA 200.8
Lead	mg/L	0.000340	--	--	--	EPA 200.8
Zinc	mg/L	0.00797	--	--	--	EPA 200.8
Turbidity	NTU	56.6	--	--	--	EPA 180.1

\*\*Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

DESERT VALLEY COMPANY  
TABLE OF MONITORING WELLS CHEMICAL ANALYSIS

W12						
Constituents	Units	1/23/2020	2Q20	3Q20	4Q20	Method
pH	Units	6.60	--	--	--	SM 4500-H+ B
Temperature	°C	28.4	--	--	--	EPA 170.1
Depth to Water from top of casing	ft	63.26	--	--	--	AS_100v01
Groundwater Elevation	ft	-180.46	--	--	--	
Specific Conductance	µS/cm	12,460	--	--	--	SM 2510 B
TDS	mg/L	8,475	--	--	--	SM 2540 C
Chloride	mg/L	3,410	--	--	--	EPA 300.0
Sulfate	mg/L	2,010	--	--	--	EPA 300.0
Sodium	mg/L	1,640	--	--	--	EPA 200.7
Arsenic	mg/L	0.00813	--	--	--	EPA 200.8
Barium	mg/L	0.0198	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000603*	--	--	--	EPA 200.8
Lead	mg/L	0.000260	--	--	--	EPA 200.8
Zinc	mg/L	0.0119	--	--	--	EPA 200.8
Turbidity	NTU	3.07	--	--	--	EPA 180.1

\*\*Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

W302						
Constituents	Units	1/23/2020	2Q20	3Q20	4Q20	Method
pH	Units	7.04	--	--	--	SM 4500-H+ B
Temperature	°C	27.2	--	--	--	EPA 170.1
Depth to Water from top of casing	ft	61.33	--	--	--	AS_100v01
Groundwater Elevation	ft	-157.73	--	--	--	
Specific Conductance	µS/cm	6,960	--	--	--	SM 2510 B
TDS	mg/L	4,370	--	--	--	SM 2540 C
Chloride	mg/L	1,700	--	--	--	EPA 300.0
Sulfate	mg/L	941	--	--	--	EPA 300.0
Sodium	mg/L	1,100	--	--	--	EPA 200.7
Arsenic	mg/L	0.00626	--	--	--	EPA 200.8
Barium	mg/L	0.0186	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000302	--	--	--	EPA 200.8
Lead	mg/L	0.000140	--	--	--	EPA 200.8
Zinc	mg/L	0.00431	--	--	--	EPA 200.8
Turbidity	NTU	9.45	--	--	--	EPA 180.1

\*\*Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

DESERT VALLEY COMPANY  
TABLE OF MONITORING WELLS CHEMICAL ANALYSIS

W305						
Constituents	Units	1/23/2020	2Q20	3Q20	4Q20	Method
pH	Units	7.21	--	--	--	SM 4500-H+ B
Temperature	°C	25.7	--	--	--	EPA 170.1
Depth to Water from top of casing	ft	63.87	--	--	--	AS_100v01
Groundwater Elevation	ft	-168.77	--	--	--	
Specific Conductance	µS/cm	6,440	--	--	--	SM 2510 B
TDS	mg/L	4,082	--	--	--	SM 2540 C
Chloride	mg/L	1,570	--	--	--	EPA 300.0
Sulfate	mg/L	889	--	--	--	EPA 300.0
Sodium	mg/L	1,110	--	--	--	EPA 200.7
Arsenic	mg/L	0.00329	--	--	--	EPA 200.8
Barium	mg/L	0.0175	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000302	--	--	--	EPA 200.8
Lead	mg/L	0.000200	--	--	--	EPA 200.8
Zinc	mg/L	0.00443	--	--	--	EPA 200.8
Turbidity	NTU	2.12	--	--	--	EPA 180.1

\*\*Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

W306						
Constituents	Units	1/23/2020	2Q20	3Q20	4Q20	Method
pH	Units	7.60	--	--	--	SM 4500-H+ B
Temperature	°C	23.4	--	--	--	EPA 170.1
Depth to Water from top of casing	ft	59.50	--	--	--	AS_100v01
Groundwater Elevation	ft	-147.20	--	--	--	
Specific Conductance	µS/cm	3,480	--	--	--	SM 2510 B
TDS	mg/L	2,498	--	--	--	SM 2540 C
Chloride	mg/L	783	--	--	--	EPA 300.0
Sulfate	mg/L	329	--	--	--	EPA 300.0
Sodium	mg/L	654	--	--	--	EPA 200.7
Arsenic	mg/L	0.00204	--	--	--	EPA 200.8
Barium	mg/L	0.0250	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000302	--	--	--	EPA 200.8
Lead	mg/L	0.000150	--	--	--	EPA 200.8
Zinc	mg/L	0.00212	--	--	--	EPA 200.8
Turbidity	NTU	0.18	--	--	--	EPA 180.1

\*\*Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

DESERT VALLEY COMPANY  
TABLE OF MONITORING WELLS CHEMICAL ANALYSIS

W307						
Constituents	Units	1/23/2020	2Q20	3Q20	4Q20	Method
pH	Units	7.27	--	--	--	SM 4500-H+ B
Temperature	°C	27.4	--	--	--	EPA 170.1
Depth to Water from top of casing	ft	63.62	--	--	--	AS_100v01
Groundwater Elevation	ft	-169.02	--	--	--	
Specific Conductance	µS/cm	6,210	--	--	--	SM 2510 B
TDS	mg/L	3,987	--	--	--	SM 2540 C
Chloride	mg/L	1,480	--	--	--	EPA 300.0
Sulfate	mg/L	951	--	--	--	EPA 300.0
Sodium	mg/L	1,060	--	--	--	EPA 200.7
Arsenic	mg/L	0.00364	--	--	--	EPA 200.8
Barium	mg/L	0.0192	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000302	--	--	--	EPA 200.8
Lead	mg/L	0.000505	--	--	--	EPA 200.8
Zinc	mg/L	0.0313	--	--	--	EPA 200.8
Turbidity	NTU	1.33	--	--	--	EPA 180.1

\*\*Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

W308						
Constituents	Units	1/23/2020	2Q20	3Q20	4Q20	Method
pH	Units	7.15	--	--	--	SM 4500-H+ B
Temperature	°C	28.5	--	--	--	EPA 170.1
Depth to Water from top of casing	ft	78.92	--	--	--	AS_100v01
Groundwater Elevation	ft	-169.82	--	--	--	
Specific Conductance	µS/cm	5,610	--	--	--	SM 2510 B
TDS	mg/L	3,555	--	--	--	SM 2540 C
Chloride	mg/L	1,320	--	--	--	EPA 300.0
Sulfate	mg/L	808	--	--	--	EPA 300.0
Sodium	mg/L	970	--	--	--	EPA 200.7
Arsenic	mg/L	0.00285	--	--	--	EPA 200.8
Barium	mg/L	0.0265	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000302	--	--	--	EPA 200.8
Lead	mg/L	0.000285	--	--	--	EPA 200.8
Zinc	mg/L	0.00406	--	--	--	EPA 200.8
Turbidity	NTU	0.29	--	--	--	EPA 180.1

\*\*Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

**DESERT VALLEY COMPANY**  
**TABLE OF MONITORING WELLS CHEMICAL ANALYSIS**

<b>W309</b>						
<b>Constituents</b>	<b>Units</b>	<b>1/22/2020</b>	<b>2Q20</b>	<b>3Q20</b>	<b>4Q20</b>	<b>Method</b>
pH	Units	7.31	--	--	--	SM 4500-H+ B
Temperature	°C	24.6	--	--	--	EPA 170.1
Depth to Water from top of casing	ft	63.51	--	--	--	AS_100v01
Groundwater Elevation	ft	-169.41	--	--	--	
Specific Conductance	µS/cm	6,470	--	--	--	SM 2510 B
TDS	mg/L	4,128	--	--	--	SM 2540 C
Chloride	mg/L	1,540	--	--	--	EPA 300.0
Sulfate	mg/L	946	--	--	--	EPA 300.0
Sodium	mg/L	1,090	--	--	--	EPA 200.7
Arsenic	mg/L	0.00348	--	--	--	EPA 200.8
Barium	mg/L	0.0164	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000302	--	--	--	EPA 200.8
Lead	mg/L	0.000105	--	--	--	EPA 200.8
Zinc	mg/L	0.00354	--	--	--	EPA 200.8
Turbidity	NTU	0.47	--	--	--	EPA 180.1

\*\*Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

<b>DUPLICATE QC SAMPLE</b>						
<b>Constituents</b>	<b>Units</b>	<b>W309</b>	--	--	--	<b>Method</b>
		<b>1/22/2020</b>	<b>2Q20</b>	<b>3Q20</b>	<b>4Q20</b>	
pH		7.30	--	--	--	SM 4500-H+ B
Temperature	°C	24.9	--	--	--	EPA 170.1
Depth of Water from top of casing	ft	63.51	--	--	--	AS_100v01
Groundwater Elevation	ft	-169.41	--	--	--	
Specific Conductance	µS/cm	6,460	--	--	--	SM 2510 B
TDS	mg/L	4,157	--	--	--	SM 2540 C
Chloride	mg/L	1,540	--	--	--	EPA 300.0
Sulfate	mg/L	945	--	--	--	EPA 300.0
Sodium	mg/L	1,080	--	--	--	EPA 200.7
Arsenic	mg/L	0.00301	--	--	--	EPA 200.8
Barium	mg/L	0.0164	--	--	--	EPA 200.8
Cadmium	mg/L	<0.000302	--	--	--	EPA 200.8
Lead	mg/L	0.000175	--	--	--	EPA 200.8
Zinc	mg/L	0.00376	--	--	--	EPA 200.8
Turbidity	NTU	0.63	--	--	--	EPA 180.1

\*\*Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

QC = quality control

# Ground Water Sampling Record

Logbook # 20

**Quality Control Section**

pH Calibration Logbook: #11 pg 14  
 Conductivity Calibration Logbook: #2 pg 15  
 Turbidity Calibration Logbook: #2 pg 15

**Stability Criteria:**

pH: ±0.10  
 Temperature: ±2%  
 Conductivity: ±2%  
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Sampler/Analyst: A. Comal  
 Date: 1/23/20  
 Facility: DNC  
 Well Type: Monitor well  
 Well Number: GW01

Starting Water Level (ft TOC): 66.90  
 Ending Water Level (ft TOC): 68.00  
 Total Depth (ft TOC): 74.00

### Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
2001040-001	11:05	0.5	26.1	6.69	11960	7.71	
	11:10	1.0	27.1	6.62	11950	7.79	pH
	11:15	1.5	27.3	6.62	11940	8.25	O
							Conductivity
							0.08
							Turbidity
							5.74

### Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
11:00	1000	Plastic	1	No	-	No	Clear	Clear
	500	Plastic		Yes	HNO <sub>3</sub>	Yes		
11:06	250	Plastic	1	Yes	HNO <sub>3</sub>	Yes	Clear	Clear
11:03	250	Plastic	2	No	-	No	Clear	Clear
	40	Vial		Yes	HCl	No		

 Purging Equipment: bladder pump

 Observations/Comments: Start Purge at 11:00am

 Sampling Equipment: bladder pump

 Disposal of Discharge Water: run off pond

 QA/QC Supervisor MK 2/5/20

# Ground Water Sampling Record

Logbook # 36<sup>19</sup>

## Quality Control Section

pH Calibration Logbook: 11 pg. 13  
 Conductivity Calibration Logbook: 2 pg. 15  
 Turbidity Calibration Logbook: 2 pg. 14

Sampler/Analyst:

R Lee

Date:

1/22/20

Facility:

DUC

Well Type:

Monitor Well

Well Number:

GW-09A

## Stability Criteria:

pH: ±0.10  
 Temperature: ±2%  
 Conductivity: ±2%  
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Starting Water Level (ft TOC):

60.51

Ending Water Level (ft TOC):

67.2

Total Depth (ft TOC):

79.47

(63.1 collected samples)

## Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
	1025	1.5	26.9	6.60	11,830	8.36	
	1030	2.0	27.4	6.60	11,970	5.54	pH
2001040-002	1035	2.5	28.1	6.57	11,810	5.25	0.46
							Conductivity
							1.35
							Turbidity
							5.38

## Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
1144	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No	Clear slight Brown	No
	500	Plastic		Yes	HNO <sub>3</sub>	Yes		
	250	Plastic	1	Yes	HNO <sub>3</sub>	Yes	slight Brown	No
	250	Plastic	2	No	-	No	slight Brown	No
	40	Vial		Yes	HCl	No		

Purging Equipment: Bladder Pump  
 Sampling Equipment: Bladder Pump  
 Disposal of Discharge Water: Run off Pond

Observations/Comments: Started purge at 1015

QA/QC Supervisor AHO 2/28/20

## Ground Water Sampling Record

Logbook # 18

### Quality Control Section

pH Calibration Logbook: 11 pg. 13  
 Conductivity Calibration Logbook: 2 pg 15  
 Turbidity Calibration Logbook: 2 pg 14

### Stability Criteria:

pH:  $\pm 0.10$   
 Temperature:  $\pm 2\%$   
 Conductivity:  $\pm 2\%$   
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Sampler/Analyst: R Lee  
 Date: 1/22/20  
 Facility: PVC  
 Well Type: monitor well  
 Well Number: GW-10A

Starting Water Level (ft TOC): 62.60  
 Ending Water Level (ft TOC): 63.96  
 Total Depth (ft TOC): 69.41 (65.11 AFTER  
Collecting  
samples)

### Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity ( $\mu$ S/cm)	Turbidity (NTU)	RPD
	913	1.5	22.8	6.49	14,110	2.80	
	918	2.0	25.5	6.48	13,780	2.24	ph
2001040-003 (4th dep)	923	2.5	26.0	6.49	13,810	1.06	
200104-003 (Sample)	928	3.0	26.2	6.49	13,830	1.01	0
							Conductivity
							0.14
							Turbidity
							4.8

### Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 $\mu$ m	Sample Appearance	
							Color	Turbidity & Sediments
1120	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No	clear	no
	500	Plastic		Yes	HNO <sub>3</sub>	Yes		
	250	Plastic	1	Yes	HNO <sub>3</sub>	Yes	clear	no
	250	Plastic	2	No	-	No	clear	NO
	40	Vial		Yes	HCl	No		

Purging Equipment: Bladder Pump  
 Sampling Equipment: Bladder Pump  
 Disposal of Discharge Water: Run off Pond

Observations/Comments: Started purge at 903

QA/QC Supervisor AO 2/28/20

# Ground Water Sampling Record

Logbook # 18

Quality Control Section

pH Calibration Logbook: #11 pg 14  
 Conductivity Calibration Logbook: #2 pg 15  
 Turbidity Calibration Logbook: #2 pg 15

Stability Criteria:

pH:  $\pm 0.10$   
 Temperature:  $\pm 2\%$   
 Conductivity:  $\pm 2\%$   
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Sampler/Analyst: S. Miller  
 Date: 1-23-20  
 Facility: DVC  
 Well Type: Monitoring Wells  
 Well Number: GW-11

Starting Water Level (ft TOC): 762.74  
 Ending Water Level (ft TOC): 65.20  
 Total Depth (ft TOC): 75.33

Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	RPD
	12:10	1.0	28.7	6.57	11830	56.4	
	12:15	1.5	28.2	6.59	11800	62.3	pH
2001040-004	12:20	2.0	28.1	6.60	11830	56.6	0.15
							Conductivity
							0.25
							Turbidity
							9.59

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 $\mu\text{m}$	Sample Appearance	
							Color	Turbidity & Sediments
12:30	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No		
	500	Plastic		Yes	HNO <sub>3</sub>	Yes		
	250	Plastic	2	Yes	HNO <sub>3</sub>	Yes		
	250	Plastic	2	No	-	No		
	40	Vial		Yes	HCl	No		

 Purging Equipment: bladder pump

 Observations/Comments: Started purging at 11:57

 Sampling Equipment: bladder pump

 Disposal of Discharge Water: run off pond

 QA/QC Supervisor AB 2/28/20

# Ground Water Sampling Record

Logbook # 20

**Quality Control Section**

pH Calibration Logbook: #11 pg 141  
 Conductivity Calibration Logbook: #2 pg 15  
 Turbidity Calibration Logbook: #2 pg 15

 Sampler/Analyst: Aronal

 Date: 11/23/20

 Facility: DVC

 Well Type: Monitor well

 Well Number: GW12
**Stability Criteria:**

pH: ±0.10  
 Temperature: ±2%  
 Conductivity: ±2%  
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Starting Water Level (ft TOC): 63.26  
 Ending Water Level (ft TOC): 64.12  
 Total Depth (ft TOC): 68.60

### Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
2001040-005	11:55	1.0	28.1	6.64	12550	9.78	
	12:00	1.5	28.8	6.62	12470	4.82	pH
	12:05	2.0	28.4	6.60	12460	3.07	0.30
							Conductivity
							0.08
							Turbidity
							44.36

### Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
12:15	1000	Plastic	1	No	-	No	Clear	Clear
	500	Plastic		Yes	HNO <sub>3</sub>	Yes		
12:19	250	Plastic	1	Yes	HNO <sub>3</sub>	Yes	Clear	Clear
12:17	250	Plastic	2	No	-	No	Clear	Clear
	40	Vial		Yes	HCl	No		

 Purging Equipment: bladder pump

 Observations/Comments: Start purge at 11:50 am

 Sampling Equipment: bladder pump

 Disposal of Discharge Water: run off pond

 QA/QC Supervisor: MKen 11/20

# Ground Water Sampling Record

Logbook # 20

Quality Control Section

pH Calibration Logbook: #11 pg 14  
 Conductivity Calibration Logbook: #2 pg 15  
 Turbidity Calibration Logbook: #2 pg 15

Stability Criteria:

pH: ±0.10  
 Temperature: ±2%  
 Conductivity: ±2%  
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

 Sampler/Analyst: Aronal  
 Date: 11/23/20

 Facility: DVC  
 Well Type: Monitor well  
 Well Number: GW 302

 Starting Water Level (ft TOC): 61.33  
 Ending Water Level (ft TOC): 62.40  
 Total Depth (ft TOC): 67.13
Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
2001040-006	9:35	2.0	26.2	7.05	7130	15.3	
	9:40	2.5	27.2	7.06	6890	12.7	pH
	9:45	3.0	27.2	7.04	6960	9.45	0.28
							Conductivity
							1.01
							Turbidity
							29.35

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
9:50	1000	Plastic	1	No	-	No	Clear	Clear
	500	Plastic		Yes	HNO <sub>3</sub>	Yes		
9:58	250	Plastic	1	Yes	HNO <sub>3</sub>	Yes	Clear	Clear
9:55	250	Plastic	2	No	-	No	Clear	Clear
	40	Vial		Yes	HCl	No		

 Purging Equipment: bladder pump

 Observations/Comments: Start purge at 9:30am

 Sampling Equipment: bladder pump

 Disposal of Discharge Water: run off pond

 QA/QC Supervisor MKam 2/1/20

# Ground Water Sampling Record

Logbook # 1619

**Quality Control Section**

pH Calibration Logbook: # 11 pg 14  
 Conductivity Calibration Logbook: # 7 pg 15  
 Turbidity Calibration Logbook: # 2 pg 15

**Stability Criteria:**

pH: ±0.10  
 Temperature: ±2%  
 Conductivity: ±2%  
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Sampler/Analyst: S. Miller  
 Date: 1-23-20  
 Facility: DVC  
 Well Type: Monitoring Well  
 Well Number: GW-305

Starting Water Level (ft TOC): 63.87  
 Sample Ending Water Level (ft TOC): 64.69  
 Total Depth (ft TOC): 70.43

**Sampling Measurements**

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
	8:20	2.5	24.0	7.21	6460	6.83	
	8:25	3.0	24.5	7.22	6480	4.15	pH
	8:30	3.5	25.2	7.20	6450	1.17	0.14
2001040-007	8:35	4.0	25.7	7.21	6440	2.12	Conductivity
							0.16
							Turbidity
							57.75

**Sample Inventory**

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
8:40	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No	clear	
	500	Plastic		Yes	HNO <sub>3</sub>	Yes		
	250	Plastic	1	Yes	HNO <sub>3</sub>	Yes	clear	
	250	Plastic	2	No	-	No	clear	
	40	Vial		Yes	HCl	No		

Purging Equipment: bladder pump  
 Sampling Equipment: bladder pump  
 Disposal of Discharge Water: run off pond

Observations/Comments: Started purging at 7:55

QA/QC Supervisor DO 2/28/20

# Ground Water Sampling Record

Logbook # 20

**Quality Control Section**

pH Calibration Logbook: #11 pg 14  
 Conductivity Calibration Logbook: #2 pg 15  
 Turbidity Calibration Logbook: #2 pg 15

Sampler/Analyst: A. Kamal  
 Date: 11/23/20

**Stability Criteria:**

pH: ±0.10  
 Temperature: ±2%  
 Conductivity: ±2%  
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Facility: DVC  
 Well Type: Monitor Well  
 Well Number: GW 306

Starting Water Level (ft TOC): 59.50  
 Ending Water Level (ft TOC): 59.53  
 Total Depth (ft TOC): 62.00

### Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
2001040-008	8:10	1.0	23.8	7.61	3580	0.59	
	8:15	1.5	23.3	7.63	3510	0.55	pH
	8:20	2.0	23.4	7.60	3480	0.18	
							0.29
							Conductivity
							0.86
							Turbidity
							101

### Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
8:25	1000	Plastic	1	No	-	No	Clear	Clear
	500	Plastic		Yes	HNO <sub>3</sub>	Yes		
8:25	250	Plastic	1	Yes	HNO <sub>3</sub>	Yes	Clear	Clear
8:25	250	Plastic	2	No	-	No	Clear	Clear
	40	Vial		Yes	HCl	No		

 Purging Equipment: bladder pump

 Observations/Comments: Start purge at 8:05am

 Sampling Equipment: bladder pump

 Disposal of Discharge Water: run off pond

 QA/QC Supervisor M.Kam 2/5/20

# Ground Water Sampling Record

Logbook # 18/10

**Quality Control Section**

pH Calibration Logbook: #1 pg 14  
 Conductivity Calibration Logbook: #2 pg 15  
 Turbidity Calibration Logbook: #2 pg 15

**Stability Criteria:**

pH:  $\pm 0.10$   
 Temperature:  $\pm 2\%$   
 Conductivity:  $\pm 2\%$   
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Sampler/Analyst: S. Miller  
 Date: 1-23-20  
 Facility: DVC  
 Well Type: Monitoring Well  
 Well Number: GW-307

Starting Water Level (ft TOC): 64.29 63.62  
 Sample Ending Water Level (ft TOC): 63.32  
 Total Depth (ft TOC): 65.92

### Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	RPD
	9:40	1.0	25.6	7.23	6250	2.60	
	9:45	1.5	27.1	7.28	6230	1.70	pH
2001040-009	9:50	2.0	27.4	7.27	6210	1.33	
							Q14
							Conductivity
							0.32
							Turbidity
							24.42

### Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 $\mu\text{m}$	Sample Appearance	
							Color	Turbidity & Sediments
10:00	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No	clear	no
	500	Plastic		Yes	HNO <sub>3</sub>	Yes		
	250	Plastic	1	Yes	HNO <sub>3</sub>	Yes	clear	no
	250	Plastic	2	No	-	No	clear	no
	40	Vial		Yes	HCl	No		

Purging Equipment: bladder pump

Observations/Comments: Started purging at 9:26

Sampling Equipment: bladder pump

Disposal of Discharge Water: run off pond

QA/QC Supervisor AJO 2/28/20

# Ground Water Sampling Record

Logbook # 18

19

Quality Control Section

pH Calibration Logbook: #11 pg 14  
 Conductivity Calibration Logbook: #2 pg 15  
 Turbidity Calibration Logbook: H 2 pg 15

 Sampler/Analyst: S. Miller  
 Date: 1-23-20

 Facility: DVC

 Well Type: Monitoring Well  
 Well Number: GW-308
Stability Criteria:

pH:  $\pm 0.10$   
 Temperature:  $\pm 2\%$   
 Conductivity:  $\pm 2\%$   
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

 Starting Water Level (ft TOC): 78.92

 Ending Water Level (ft TOC): 79.01

 Total Depth (ft TOC): 82.30
Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	RPD
	11:05	1.0	28.0	7.14	5610	6.09	
	11:10	1.5	28.5	7.15	5620	0.98	pH
	11:15	2.0	28.4	7.13	5610	0.45	
2001040-010	11:20	2.5	28.5	7.15	5610	0.29	0.28
							Conductivity
							0
							Turbidity
							43.24

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 $\mu\text{m}$	Sample Appearance	
							Color	Turbidity & Sediments
11:25	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No	clear	no
	500	Plastic		Yes	HNO <sub>3</sub>	Yes		
	250	Plastic	1	Yes	HNO <sub>3</sub>	Yes	clear	no
	250	Plastic	2	No	-	No	clear	no
	40	Vial		Yes	HCl	No		

 Purging Equipment: blender pump

 Observations/Comments: Started purging at 10:59

 Sampling Equipment: blender pump

 Disposal of Discharge Water: run off pond

 QA/QC Supervisor Otto 2/28/20

## Ground Water Sampling Record

Logbook # 18 19

### Quality Control Section

pH Calibration Logbook:

Conductivity Calibration Logbook:

Turbidity Calibration Logbook:

BOOK pg. 11 pg. 13  
BOOK 2 pg. 15  
BOOK 2 pg. 14

Sampler/Analyst:

Date:

Rue  
1/22/20

Facility:

Well Type:

Well Number:

DJC  
Monitor Well  
GW-309

### Stability Criteria:

pH: ±0.10

Temperature: ±2%

Conductivity: ±2%

Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Starting Water Level (ft TOC):

Ending Water Level (ft TOC):

Total Depth (ft TOC):

63.51  
63.49  
65.21

(63.47 AFTER  
Collecting  
Samples)

### Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
	733	1.0	22.3	7.22	6,530	1.65	
	738	1.2	24.6	7.30	6,440	1.00	PH
2001040-012 (Dup)	743	1.4	24.9	7.30	6,460	0.63	
2001040-011 (Sample)	744	1.4	24.6	7.31	6,476	0.47	0.14
							Conductivity
							0.15
							Turbidity
							29

### Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
733	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	2	No	-	No		
	500	Plastic		Yes	HNO <sub>3</sub>	Yes	Yes clear	ND
	250	Plastic	2	Yes	HNO <sub>3</sub>	Yes	Yes clear	ND
	250	Plastic	4	No	-	No	Yes clear	ND
	40	Vial		Yes	HCl	No	Yes clear	ND

Purging Equipment:  
Sampling Equipment:  
Disposal of Discharge Water:

Bladder Pump  
Bladder Pump  
Run off Pond

Observations/Comments: Started purge at 723

QA/QC Supervisor: ORO 2/28/20

Conductivity Standard Method 2510B  
Turbidity EPA 180.1

Groundwater Sample Procedure AS-100v01  
pH Standard Method 4500 H<sup>+</sup> B

### DVC Ground Water Monitoring Wells 95% Upper Confidence Interval Historical Data

Constituents	Units	W01	W09A	W10A	W11	W12	W302	W305	W306	W307	W308	W309
pH	Units	7.15	7.12	6.95	7.20	7.12	7.63	7.71	8.10	7.79	7.74	7.74
Temperature	°C	31.3	32.5	31.6	31.4	31.3	31.4	31.3	31.9	31.7	33.1	32.5
Groundwater Elevation	ft	-178	-178	-178	-179	-179	-156	-168	-146	-167	-167	-167
Specific Conductivity	µS/cm	12,923	12,976	15,594	13,250	14,009	8,155	7,392	4,793	6,830	6,374	7,342
TDS	mg/L	8,731	9,704	11,714	9,488	9,816	5,027	5,047	2,931	4,569	4,683	5,005
Chloride	mg/L	3,482	3,413	4,362	3,553	3,815	2,059	2,073	1,025	1,626	1,554	1,829
Sulfate	mg/L	1,969	2,373	2,314	2,339	2,225	1,070	1,078	470	1,041	984	1,104
Sodium	mg/L	2,028	1,747	2,183	2,007	2,009	1,354	1,412	957	3,481	1,205	1,493
Arsenic	mg/L	0.0121	0.0180	0.0190	0.0602	0.0140	0.0097	0.0061	0.0048	0.0062	0.0059	0.0123
Barium	mg/L	0.0647	0.0399	0.0719	0.1248	0.0325	0.0301	0.0527	0.0350	0.0685	0.0480	0.0401
Cadmium	mg/L	0.00216	0.00184	0.00187	0.00156	0.00321	0.00196	0.00150	0.00149	0.00175	0.00205	0.00156
Lead	mg/L	0.00569	0.00218	0.00339	0.00547	0.00376	0.01090	0.00271	0.00270	0.00336	0.00329	0.00218
Zinc	mg/L	0.0569	0.0376	0.1388	0.0444	0.0917	0.0585	0.0437	0.0688	0.0398	0.0458	0.0374
Turbidity	NTU	6.76	23.5	7.24	181	10.66	10.23	23.0	0.75	3.90	5.30	5.62



*CalEnergy Operating Corporation*

*7030 Gentry Road*

*Calipatria, CA 92233*

*TEL: (760) 348-4200 FAX: (760) 348-4222*

*Website: www.calenergy.com*

February 17, 2020

Anetha Lue  
CalEnergy  
CalEnergy Operating Corporation  
7030 Gentry Road  
Calipatria, CA 92233  
TEL:  
FAX:

RE: DVC Quarterly MW

Order No.: 2001040

Dear Anetha Lue:

CalEnergy Operating Corporation received 12 sample(s) on 1/23/2020 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results designated with a "J" qualifier are estimated and represent a detection above the Method Detection Limit (MDL) and less than the Reporting Limit (PQL). These analytes are not reviewed nor narrated as to whether they are laboratory artifacts.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Yanqiu Wu".

Yanqiu Wu  
Director, Engineering & Laboratory Service  
7030 Gentry Road  
Calipatria, CA 92233



CalEnergy Operating Corporation  
7030 Gentry Road  
Calipatria, CA 92233  
TEL: (760) 348-4200 FAX: (760) 348-4222  
Website: [www.calenergy.com](http://www.calenergy.com)

## Case Narrative

WO#: 2001040  
Date: 2/17/2020

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**CLIENT:** CalEnergy  
**Project:** DVC Quarterly MW

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This report in its entirety consists of the documents listed below. All documents contain the CalEnergy Operating Corporation Work Order Number assigned to this report.

1. Paginated Report including: Case Narrative, Analytical Results and Applicable Quality Control Summary Reports.
2. A Cover Letter that immediately precedes the Paginated Report.
3. Paginated copies of the Chain of Custody Documents supplied with this sample set.

Concentrations reported with a J flag in the Qual field are values below the reporting limit (RL) but greater than the established method detection limit (MDL). There is greater uncertainty associated with these results and data should be considered as estimated.

Concentrations reported with an E flag in the Qual field are values that exceed the upper quantification range. There is greater uncertainty associated with these results and data should be considered as estimated.

Any comments or problems with the analytical events associated with this report are noted below.



CalEnergy Operating Corporation  
7030 Gentry Road  
Calipatria, CA 92233  
TEL: (760) 348-4200 FAX: (760) 348-4222  
Website: www.calenergy.com

Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/23/2020 11:15:00 AM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-001 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 01

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity							
	11940	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	6.62	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	8.25	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	1730	1.68	5.04		mg/L	40	02/13/20 9:05 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	4.65	0.319	0.957		µg/L	10	02/12/20 4:00 PM
Barium	28.2	0.195	0.585		µg/L	10	02/12/20 4:00 PM
Cadmium	0.240	0.201	0.603	J	µg/L	10	02/12/20 4:00 PM
Lead	0.310	0.0280	0.0840		µg/L	10	02/12/20 4:00 PM
Zinc	15.2	1.24	3.72		µg/L	10	02/12/20 4:00 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CHROMATOGRAPHY (IC)</b>							
Chloride	3130	2.00	10.0		mg/L	100	01/28/20 4:43 PM
Sulfate	1860	2.00	10.0		mg/L	100	01/28/20 4:43 PM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	7960	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



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Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/22/2020 10:35:00 AM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-002 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 09A

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity							
	11810	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	6.57	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	5.25	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	1500	1.68	5.04		mg/L	40	02/13/20 9:03 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	11.5	0.319	0.957		µg/L	10	02/12/20 4:04 PM
Barium	19.9	0.195	0.585		µg/L	10	02/12/20 4:04 PM
Cadmium	ND	0.201	0.603	U	µg/L	10	02/12/20 4:04 PM
Lead	0.330	0.0280	0.0840		µg/L	10	02/12/20 4:04 PM
Zinc	9.12	1.24	3.72		µg/L	10	02/12/20 4:04 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CHROMATOGRAPHY (IC)</b>							
Chloride	3170	2.00	10.0		mg/L	100	01/28/20 5:10 PM
Sulfate	2130	2.00	10.0		mg/L	100	01/28/20 5:10 PM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	8380	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



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Website: www.calenergy.com

Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/22/2020 9:28:00 AM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-003 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 10A

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity							
	13830	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	6.49	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	1.01	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	1830	1.68	5.04		mg/L	40	02/13/20 9:06 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	8.15	0.319	0.957		µg/L	10	02/12/20 4:16 PM
Barium	24.6	0.195	0.585		µg/L	10	02/12/20 4:16 PM
Cadmium	ND	0.201	0.603	U	µg/L	10	02/12/20 4:16 PM
Lead	0.480	0.0280	0.0840		µg/L	10	02/12/20 4:16 PM
Zinc	5.90	1.24	3.72		µg/L	10	02/12/20 4:16 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CROMATOGRAPHY (IC)</b>							
Chloride	3920	2.00	10.0		mg/L	100	01/28/20 6:34 PM
Sulfate	2120	2.00	10.0		mg/L	100	01/28/20 6:34 PM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	9767	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



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Website: www.calenergy.com

Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/23/2020 12:20:00 PM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-004 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 11

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity							
	11830	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	6.60	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	56.6	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	1550	1.68	5.04		mg/L	40	02/13/20 9:07 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	48.9	0.319	0.957		µg/L	10	02/12/20 4:20 PM
Barium	20.5	0.195	0.585		µg/L	10	02/12/20 4:20 PM
Cadmium	ND	0.201	0.603	U	µg/L	10	02/12/20 4:20 PM
Lead	0.340	0.0280	0.0840		µg/L	10	02/12/20 4:20 PM
Zinc	7.97	1.24	3.72		µg/L	10	02/12/20 4:20 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CROMATOGRAPHY (IC)</b>							
Chloride	3190	2.00	10.0		mg/L	100	01/28/20 7:29 PM
Sulfate	2110	2.00	10.0		mg/L	100	01/28/20 7:29 PM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	8245	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



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TEL: (760) 348-4200 FAX: (760) 348-4222  
Website: www.calenergy.com

Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/23/2020 12:05:00 PM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-005 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 12

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity							
	12460	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	6.60	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	3.07	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	1640	1.68	5.04		mg/L	40	02/13/20 9:08 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	8.13	0.319	0.957		µg/L	10	02/12/20 4:24 PM
Barium	19.8	0.195	0.585		µg/L	10	02/12/20 4:24 PM
Cadmium	0.300	0.201	0.603	J	µg/L	10	02/12/20 4:24 PM
Lead	0.260	0.0280	0.0840		µg/L	10	02/12/20 4:24 PM
Zinc	11.9	1.24	3.72		µg/L	10	02/12/20 4:24 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CROMATOGRAPHY (IC)</b>							
Chloride	3410	2.00	10.0		mg/L	100	01/28/20 7:57 PM
Sulfate	2010	2.00	10.0		mg/L	100	01/28/20 7:57 PM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	8475	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



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Website: www.calenergy.com

Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/23/2020 9:45:00 AM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-006 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 302

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity							
	6960	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	7.04	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	9.45	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	1100	1.68	5.04		mg/L	40	02/13/20 9:09 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	6.26	0.160	0.478		µg/L	5	02/12/20 4:28 PM
Barium	18.6	0.0975	0.292		µg/L	5	02/12/20 4:28 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	02/12/20 4:28 PM
Lead	0.140	0.0140	0.0420		µg/L	5	02/12/20 4:28 PM
Zinc	4.31	0.620	1.86		µg/L	5	02/12/20 4:28 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CROMATOGRAPHY (IC)</b>							
Chloride	1700	2.00	10.0		mg/L	100	01/28/20 8:25 PM
Sulfate	941	2.00	10.0		mg/L	100	01/28/20 8:25 PM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	4370	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



CalEnergy Operating Corporation  
7030 Gentry Road  
Calipatria, CA 92233  
TEL: (760) 348-4200 FAX: (760) 348-4222  
Website: www.calenergy.com

Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/23/2020 8:35:00 AM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-007 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 305

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity							
	6440	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	7.21	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	2.12	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	1110	1.68	5.04		mg/L	40	02/13/20 9:12 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	3.29	0.160	0.478		µg/L	5	02/12/20 4:40 PM
Barium	17.5	0.0975	0.292		µg/L	5	02/12/20 4:40 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	02/12/20 4:40 PM
Lead	0.200	0.0140	0.0420		µg/L	5	02/12/20 4:40 PM
Zinc	4.43	0.620	1.86		µg/L	5	02/12/20 4:40 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CHROMATOGRAPHY (IC)</b>							
Chloride	1570	2.00	10.0		mg/L	100	01/28/20 11:12 PM
Sulfate	889	2.00	10.0		mg/L	100	01/28/20 11:12 PM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	4082	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



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Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/23/2020 8:20:00 AM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-008 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 306

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity							
	3480	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	7.60	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	0.180	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	654	1.68	5.04		mg/L	40	02/13/20 9:13 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	2.04	0.160	0.478		µg/L	5	02/12/20 4:44 PM
Barium	25.0	0.0975	0.292		µg/L	5	02/12/20 4:44 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	02/12/20 4:44 PM
Lead	0.150	0.0140	0.0420		µg/L	5	02/12/20 4:44 PM
Zinc	2.12	0.620	1.86		µg/L	5	02/12/20 4:44 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CHROMATOGRAPHY (IC)</b>							
Chloride	783	2.00	10.0		mg/L	100	01/28/20 11:40 PM
Sulfate	329	2.00	10.0		mg/L	100	01/28/20 11:40 PM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	2498	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



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Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/23/2020 9:50:00 AM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-009 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 307

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity							
	6210	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	7.27	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	1.33	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	1060	1.68	5.04		mg/L	40	02/13/20 9:15 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	3.64	0.160	0.478		µg/L	5	02/12/20 4:48 PM
Barium	19.2	0.0975	0.292		µg/L	5	02/12/20 4:48 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	02/12/20 4:48 PM
Lead	0.505	0.0140	0.0420		µg/L	5	02/12/20 4:48 PM
Zinc	31.3	0.620	1.86		µg/L	5	02/12/20 4:48 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CROMATOGRAPHY (IC)</b>							
Chloride	1480	2.00	10.0		mg/L	100	01/29/20 12:08 AM
Sulfate	951	2.00	10.0		mg/L	100	01/29/20 12:08 AM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	3987	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



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Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/23/2020 11:20:00 AM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-010 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 308

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity							
	5610	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	7.15	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	0.290	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	970	1.68	5.04		mg/L	40	02/13/20 9:15 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	2.85	0.160	0.478		µg/L	5	02/12/20 5:00 PM
Barium	26.5	0.0975	0.292		µg/L	5	02/12/20 5:00 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	02/12/20 5:00 PM
Lead	0.285	0.0140	0.0420		µg/L	5	02/12/20 5:00 PM
Zinc	4.06	0.620	1.86		µg/L	5	02/12/20 5:00 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CHROMATOGRAPHY (IC)</b>							
Chloride	1320	2.00	10.0		mg/L	100	01/29/20 1:31 AM
Sulfate	808	2.00	10.0		mg/L	100	01/29/20 1:31 AM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	3555	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



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Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/22/2020 7:44:00 AM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-011 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 309

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity							
	6470	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	7.31	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	0.470	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	1090	1.68	5.04		mg/L	40	02/13/20 9:16 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	3.48	0.160	0.478		µg/L	5	02/12/20 5:04 PM
Barium	16.4	0.0975	0.292		µg/L	5	02/12/20 5:04 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	02/12/20 5:04 PM
Lead	0.105	0.0140	0.0420		µg/L	5	02/12/20 5:04 PM
Zinc	3.54	0.620	1.86		µg/L	5	02/12/20 5:04 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CROMATOGRAPHY (IC)</b>							
Chloride	1540	2.00	10.0		mg/L	100	01/29/20 1:59 AM
Sulfate	946	2.00	10.0		mg/L	100	01/29/20 1:59 AM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	4128	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



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Analytical Report  
(consolidated)  
WO#: 2001040  
Date Reported: 2/17/2020

**CLIENT:** CalEnergy **Collection Date:** 1/22/2020 7:43:00 AM  
**Project:** DVC Quarterly MW  
**Lab ID:** 2001040-012 **Matrix:** GROUNDWATER  
**Client Sample ID:** W 309DUP

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE</b>							
Specific Conductivity	6460	10.00	10.00		µS/cm	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY</b>							
pH	7.30	1.00	1.00		pH Units	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)</b>							
Turbidity	0.630	0.0200	0.0200		NTU	1	01/23/20 1:15 PM
<b>DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES</b>							
Sodium	1080	1.68	2.96		mg/L	40	02/13/20 9:17 AM
<b>DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER</b>							
Arsenic	3.01	0.160	0.478		µg/L	5	02/12/20 5:08 PM
Barium	16.4	0.0975	0.292		µg/L	5	02/12/20 5:08 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	02/12/20 5:08 PM
Lead	0.175	0.0140	0.0420		µg/L	5	02/12/20 5:08 PM
Zinc	3.76	0.620	1.86		µg/L	5	02/12/20 5:08 PM
<b>DVC QUARTERLY MW ANIONS BY ION-CHROMATOGRAPHY (IC)</b>							
Chloride	1540	2.00	10.0		mg/L	100	01/29/20 2:27 AM
Sulfate	945	2.00	10.0		mg/L	100	01/29/20 2:27 AM
<b>DVC QUARTERLY MW GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE</b>							
Residue, Dissolved	4157	10.00	10.00		mg/L	1	01/24/20 2:00 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
N Tentatively identified compounds  
PL Permit Limit  
RL Reporting Detection Limit

U Samples with CalcVal < MDL.  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
T Retest Qualifiers for FC



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## QC SUMMARY REPORT

WO#: 2001040  
17-Feb-20

**Client:** CalEnergy  
**Project:** DVC Quarterly MW

**TestCode:** 2510B\_CONDUCTIVITY

Sample ID: 2001040-003BDUP	SampType: DUP	TestCode: 2510B_COND	Units: $\mu\text{S}/\text{cm}$	Prep Date:	RunNo: 34302						
Client ID: W 10A	Batch ID: R34302	TestNo: A2510B		Analysis Date: 1/23/2020	SeqNo: 272416						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductivity	13810	10.00				13830			0.145		10

Sample ID: 2001040-011BDUP	SampType: DUP	TestCode: 2510B_COND	Units: $\mu\text{S}/\text{cm}$	Prep Date:	RunNo: 34302						
Client ID: W 309	Batch ID: R34302	TestNo: A2510B		Analysis Date: 1/23/2020	SeqNo: 272425						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductivity	6460	10.00				6470			0.155		10

**TestCode:** 4500-H+B

Sample ID: 2001040-003BDUP	SampType: DUP	TestCode: 4500-H+B	Units: pH Units	Prep Date:	RunNo: 34302						
Client ID: W 10A	Batch ID: R34302	TestNo: A4500-H+B		Analysis Date: 1/23/2020	SeqNo: 272400						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.49	1.00				6.490			0		10

**Qualifiers:** H Holding times for preparation or analysis exceeded  
PL Permit Limit  
S MBLK SampType result is greater than 1/2 PQL.  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as sp

Original

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## QC SUMMARY REPORT

WO#: 2001040  
17-Feb-20

**Client:** CalEnergy  
**Project:** DVC Quarterly MW

Sample ID:	2001040-011BDUP	SampType:	DUP	TestCode:	4500-H+B	Units:	pH Units	Prep Date:		RunNo:	34302	
Client ID:	W 309	Batch ID:	R34302	TestNo:	A4500-H+B <th></th> <th></th> <th>Analysis Date:</th> <td>1/23/2020</td> <th>SeqNo:</th> <td>272409</td>			Analysis Date:	1/23/2020	SeqNo:	272409	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		7.30	1.00						7.310	0.137	10	

**TestCode:** EPA\_180.1

Sample ID:	2001040-003BDUP	SampType:	DUP	TestCode:	EPA_180.1	Units:	NTU	Prep Date:		RunNo:	34302	
Client ID:	W 10A	Batch ID:	R34302	TestNo:	E180.1 <th></th> <th></th> <th>Analysis Date:</th> <td>1/23/2020</td> <th>SeqNo:</th> <td>272432</td>			Analysis Date:	1/23/2020	SeqNo:	272432	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity		1.06	0.0200						1.010	4.83	15	

Sample ID:	2001040-011BDUP	SampType:	DUP	TestCode:	EPA_180.1	Units:	NTU	Prep Date:		RunNo:	34302	
Client ID:	W 309	Batch ID:	R34302	TestNo:	E180.1			Analysis Date:	1/23/2020	SeqNo:	272441	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity		0.630	0.0200						0.4700	29.1	15	R

**TestCode:** EPA\_200.7

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	MBLK SampType result is greater than 1/2 PQL.	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as sp

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## QC SUMMARY REPORT

WO#: 2001040  
17-Feb-20

**Client:** CalEnergy  
**Project:** DVC Quarterly MW

Sample ID: <b>FB</b>	SampType: <b>FB</b>	TestCode: <b>EPA_200.7</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>34353</b>
Client ID: <b>BatchQC</b>	Batch ID: <b>R34353</b>	TestNo: <b>E200.7</b>		Analysis Date: <b>2/13/2020</b>	SeqNo: <b>273338</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sodium	ND	5.04			U

Sample ID: <b>2001040-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA_200.7</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>34353</b>
Client ID: <b>W 09A</b>	Batch ID: <b>R34353</b>	TestNo: <b>E200.7</b>		Analysis Date: <b>2/13/2020</b>	SeqNo: <b>273340</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sodium	1690	5.04	200.0	1496	95.0 75 125

Sample ID: <b>2001040-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA_200.7</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>34353</b>
Client ID: <b>W 09A</b>	Batch ID: <b>R34353</b>	TestNo: <b>E200.7</b>		Analysis Date: <b>2/13/2020</b>	SeqNo: <b>273341</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sodium	1680	5.04	200.0	1496	93.2 75 125 1686 0.219 20

Sample ID: <b>2001040-008ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>EPA_200.7</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>34353</b>
Client ID: <b>W 306</b>	Batch ID: <b>R34353</b>	TestNo: <b>E200.7</b>		Analysis Date: <b>2/13/2020</b>	SeqNo: <b>273352</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sodium	657	5.04			654.1 0.458 15

**TestCode:** **EPA\_200.8\_MW**

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	MBLK SampType result is greater than 1/2 PQL.	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as sp

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CalEnergy Operating Corporation  
7030 Gentry Road  
Calipatria, CA 92233  
TEL: (760) 348-4200 FAX: (760) 348-4222  
Website: www.calenergy.com

## QC SUMMARY REPORT

WO#: 2001040  
17-Feb-20

**Client:** CalEnergy  
**Project:** DVC Quarterly MW

Sample ID: <b>LCS</b>	SampType: <b>LCS</b>	TestCode: <b>EPA_200.8_M</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>34354</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R34354</b>	TestNo: <b>E200.8</b>		Analysis Date: <b>2/12/2020</b>				SeqNo: <b>273367</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	51.1	0.0957	50.00	0	102	90	110				
Barium	50.9	0.0585	50.00	0	102	90	110				
Cadmium	50.6	0.0603	50.00	0	101	90	110				
Lead	50.5	0.00840	50.00	0	101	90	110				
Zinc	51.0	0.372	50.00	0	102	90	110				

Sample ID: <b>Field blank</b>	SampType: <b>FB</b>	TestCode: <b>EPA_200.8_M</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>34354</b>			
Client ID: <b>BatchQC</b>	Batch ID: <b>R34354</b>	TestNo: <b>E200.8</b>		Analysis Date: <b>2/12/2020</b>				SeqNo: <b>273370</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	0.0957									U
Barium	ND	0.0585									U
Cadmium	ND	0.0603									U
Lead	ND	0.00840									U
Zinc	ND	0.372									U

Sample ID: <b>2001040-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA_200.8_M</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>34354</b>			
Client ID: <b>W 09A</b>	Batch ID: <b>R34354</b>	TestNo: <b>E200.8</b>		Analysis Date: <b>2/12/2020</b>				SeqNo: <b>273373</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	536	0.957	500.0	11.49	105	75	125				
Barium	494	0.585	500.0	19.93	94.8	75	125				
Cadmium	462	0.603	500.0	0	92.3	75	125				

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	MBLK SampType result is greater than 1/2 PQL.	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as sp

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TEL: (760) 348-4200 FAX: (760) 348-4222  
Website: www.calenergy.com

## QC SUMMARY REPORT

WO#: 2001040  
17-Feb-20

**Client:** CalEnergy  
**Project:** DVC Quarterly MW

Sample ID: 2001040-002AMS	SampType: MS	TestCode: EPA_200.8_M	Units: µg/L	Prep Date:				RunNo: 34354			
Client ID: W 09A	Batch ID: R34354	TestNo: E200.8		Analysis Date: 2/12/2020				SeqNo: 273373			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	520	0.0840	500.0	0.3300	104	75	125				
Zinc	443	3.72	500.0	9.120	86.7	75	125				

Sample ID: 2001040-002AMSD	SampType: MSD	TestCode: EPA_200.8_M	Units: µg/L	Prep Date:				RunNo: 34354			
Client ID: W 09A	Batch ID: R34354	TestNo: E200.8		Analysis Date: 2/12/2020				SeqNo: 273374			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	543	0.957	500.0	11.49	106	75	125	536.2	1.27	15	
Barium	504	0.585	500.0	19.93	96.8	75	125	494.0	2.04	15	
Cadmium	465	0.603	500.0	0	93.1	75	125	461.7	0.790	15	
Lead	530	0.0840	500.0	0.3300	106	75	125	520.5	1.72	15	
Zinc	448	3.72	500.0	9.120	87.8	75	125	442.8	1.15	15	

Sample ID: 2001040-009AMS	SampType: MS	TestCode: EPA_200.8_M	Units: µg/L	Prep Date:				RunNo: 34354			
Client ID: W 307	Batch ID: R34354	TestNo: E200.8		Analysis Date: 2/12/2020				SeqNo: 273384			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	264	0.478	250.0	3.640	104	75	125				
Barium	258	0.292	250.0	19.20	95.6	75	125				
Cadmium	228	0.302	250.0	0	91.2	75	125				
Lead	263	0.0420	250.0	0.5050	105	75	125				
Zinc	247	1.86	250.0	31.28	86.2	75	125				

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	MBLK SampType result is greater than 1/2 PQL.	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as sp

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7030 Gentry Road  
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TEL: (760) 348-4200 FAX: (760) 348-4222  
Website: www.calenergy.com

## QC SUMMARY REPORT

WO#: 2001040  
17-Feb-20

**Client:** CalEnergy  
**Project:** DVC Quarterly MW

Sample ID: 2001040-009AMSD	SampType: MSD	TestCode: EPA_200.8_M	Units: µg/L	Prep Date:				RunNo: 34354			
Client ID: W 307	Batch ID: R34354	TestNo: E200.8		Analysis Date: 2/12/2020				SeqNo: 273385			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	268	0.478	250.0	3.640	106	75	125	264.1	1.30	15	
Barium	260	0.292	250.0	19.20	96.2	75	125	258.3	0.533	15	
Cadmium	230	0.302	250.0	0	91.8	75	125	228.0	0.730	15	
Lead	266	0.0420	250.0	0.5050	106	75	125	263.3	0.870	15	
Zinc	250	1.86	250.0	31.28	87.5	75	125	246.8	1.33	15	

**TestCode:** EPA\_300.0

Sample ID: 2001040-002B MS	SampType: MS	TestCode: EPA_300.0	Units: mg/L	Prep Date:				RunNo: 34308			
Client ID: W 09A	Batch ID: R34308	TestNo: E300.0		Analysis Date: 1/28/2020				SeqNo: 272494			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5150	10.0	2000	3174	98.9	80	120				
Sulfate	4110	10.0	2000	2132	98.9	80	120				

Sample ID: 2001040-002B MSD	SampType: MSD	TestCode: EPA_300.0	Units: mg/L	Prep Date:				RunNo: 34308			
Client ID: W 09A	Batch ID: R34308	TestNo: E300.0		Analysis Date: 1/28/2020				SeqNo: 272495			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5160	10.0	2000	3174	99.5	80	120	5152	0.238	10	
Sulfate	4120	10.0	2000	2132	99.5	80	120	4110	0.301	10	

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits			ND	Not Detected at the Reporting Limit		
	PL	Permit Limit	R	RPD outside accepted recovery limits			RL	Reporting Detection Limit		
	S	MBLK SampType result is greater than 1/2 PQL.	S	Spike Recovery outside accepted recovery limits			W	Sample container temperature is out of limit as sp		

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Website: www.calenergy.com

## QC SUMMARY REPORT

WO#: 2001040  
17-Feb-20

**Client:** CalEnergy  
**Project:** DVC Quarterly MW

Sample ID: 2001040-003B dup	SampType: DUP	TestCode: EPA_300.0	Units: mg/L	Prep Date:	RunNo: 34308
Client ID: W 10A	Batch ID: R34308	TestNo: E300.0		Analysis Date: 1/28/2020	SeqNo: 272497
<b>Analyte</b>					
Chloride	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPD Limit Qual
3920	10.0				3922 0.0436 10
Sulfate	2120	10.0			2124 0.117 10
<b>Sample ID: 2001040-009B MS</b>					
Client ID: W 307	Batch ID: R34308	TestCode: EPA_300.0	Units: mg/L	Prep Date:	RunNo: 34308
<b>Analyte</b>					
Chloride	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPD Limit Qual
3460	10.0	2000	1480	99.2	80 120
Sulfate	2960	10.0	2000	951.0	100 80 120
<b>Sample ID: 2001040-009B MSD</b>					
Client ID: W 307	Batch ID: R34308	TestCode: EPA_300.0	Units: mg/L	Prep Date:	RunNo: 34308
<b>Analyte</b>					
Chloride	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPD Limit Qual
3460	10.0	2000	1480	98.8	80 120 3465 0.242 10
Sulfate	2960	10.0	2000	951.0	100 80 120 2956 0.00744 10
<b>Sample ID: Field Blank</b>					
Client ID: BatchQC	Batch ID: R34308	TestCode: EPA_300.0	Units: mg/L	Prep Date:	RunNo: 34308
<b>Analyte</b>					
FB	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPD Limit Qual
TestNo: E300.0					Analysis Date: 1/28/2020 SeqNo: 272516

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	MBLK SampType result is greater than 1/2 PQL.	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as sp

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## QC SUMMARY REPORT

WO#: 2001040  
17-Feb-20

**Client:** CalEnergy  
**Project:** DVC Quarterly MW

Sample ID: Field Blank	SampType: FB	TestCode: EPA_300.0	Units: mg/L	Prep Date:	RunNo: 34308		
Client ID: BatchQC	Batch ID: R34308	TestNo: E300.0		Analysis Date: 1/28/2020	SeqNo: 272516		
<hr/>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPD Limit Qual		
Chloride	ND	0.100					U
Sulfate	ND	0.100					U

Sample ID: LCS	SampType: LCS	TestCode: EPA_300.0	Units: mg/L	Prep Date:	RunNo: 34308		
Client ID: LCSW	Batch ID: R34308	TestNo: E300.0		Analysis Date: 1/28/2020	SeqNo: 272519		
<hr/>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPD Limit Qual		
Chloride	19.6	0.100	20.00	0	98.1 90 110		
Sulfate	19.7	0.100	20.00	0	98.4 90 110		

**TestCode:** TDS

Sample ID: R34258FB	SampType: FB	TestCode: TDS	Units: mg/L	Prep Date:	RunNo: 34275		
Client ID: BatchQC	Batch ID: R34275	TestNo: A2540C		Analysis Date: 1/24/2020	SeqNo: 271706		
<hr/>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPD Limit Qual		
Residue, Dissolved	ND	10.00					U

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	MBLK SampType result is greater than 1/2 PQL.	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified

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Calipatria, CA 92233  
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Website: [www.calenergy.com](http://www.calenergy.com)

## QC SUMMARY REPORT

WO#: 2001040  
17-Feb-20

**Client:** CalEnergy  
**Project:** DVC Quarterly MW

Sample ID: 2001040-010BDUP	SampType: DUP	TestCode: TDS	Units: mg/L	Prep Date:	RunNo: 34275
Client ID: W 308	Batch ID: R34275	TestNo: A2540C		Analysis Date: 1/24/2020	SeqNo: 271717
<hr/>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Residue, Dissolved	3557	10.00			3555
					0.0562
					5

<b>Qualifiers:</b>	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
PL	Permit Limit	R RPD outside accepted recovery limits	RL Reporting Detection Limit
S	MBLK Samptype result is greater than 1/2 PQL.	S Spike Recovery outside accepted recovery limits	W Sample container temperature is out of limit as sp

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## Analytical Services Department

7030 Gentry Road, Calipatria, CA 92233

Tel: (760) 348-4250

Fax: (760) 348-4222

## CHAIN OF CUSTODY RECORD

DATE: 1/22/20

PAGE: 1 OF 3

CUSTOMER/LOCATION:			CUSTOMER PROJECT NAME/NUMBER:			P.O. NO.:		
DUC			DUC Monitoring Wells 1Q20					
ADDRESS:			PROJECT CONTACT:			CHARGE TO:		
CITY:			Jenny Wu					
TEL:	FAX:	E-MAIL:	SAMPLER(S) (SIGNATURE)			LAB USE ONLY:		
			R. Lee			COC# <b>No 3599</b>		
TURNAROUND TIME:			REQUESTED ANALYSIS					
<input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS <input type="checkbox"/> 14 DAYS <input type="checkbox"/>			<input type="checkbox"/> pH <input type="checkbox"/> Conductivity <input type="checkbox"/> Turbidity <input type="checkbox"/> TDS <input type="checkbox"/> EPA 20028 (As, Ba, Cd, Pb, Zn) <input type="checkbox"/> EPA 2097 (Na) <input type="checkbox"/> EPA 30010 (Cl, SO4)					
SPECIAL REQUIREMENTS:								
<input type="checkbox"/> RWQCB REPORTING <input type="checkbox"/> ARCHIVE SAMPLES UNTIL ____/____/_____								
SPECIAL INSTRUCTIONS:  WO # 2001040								

SAMPLE ID	LOCATION / DESCRIPTION	SAMPLING		Matrix	Preser- ative	# Cont- ainers	pH	Conductivity	Turbidity	TDS
		DATE	TIME							
-002	W 09A	1/22/20	10:35	W	Y	1				X X
	W 09A	1/22/20	10:35	W	N	1	X X	X X	X X	X
-003	W 10A	1/22/20	9:28	W	Y	1				X X
	W 10A	1/22/20	9:28	W	N	1	X X	X X	X X	X
-011	W 309	1/22/20	7:44	W	Y	1				X X
	W 309	1/22/20	7:44	W	N	1	X X	X X	X X	X
-012	W 309 Duplicate	1/22/20	7:43	W	Y	1				X X
	W 309 Duplicate	1/22/20	7:43	W	N	1	X X	X X	X X	X

RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE: 1/22/20	TIME: 1300
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE:	TIME:
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE:	TIME:

DATE: 1/23/20

**Analytical Services Department**

PAGE: 2 OF 3

CUSTOMER/LOCATION: <b>DUC</b>			CUSTOMER PROJECT NAME/NUMBER: <b>DUC Monitoring Wells 1 Q20</b>			P.O. NO.:
ADDRESS:			PROJECT CONTACT: <b>Jenny Wu</b>			CHARGE TO:
CITY:			SAMPLER(S) (SIGNATURE) <b>A. (Lowa)</b>			LAB USE ONLY:
TEL:	FAX:	E-MAIL:				COC# <b>No 3600</b>

## TURNAROUND TIME:

 24 HR  48 HR  72 HR  5 DAYS  10 DAYS  14 DAYS 

## SPECIAL REQUIREMENTS:

 RWQCB REPORTING ARCHIVE SAMPLES UNTIL \_\_\_\_ / \_\_\_\_ / \_\_\_\_

## SPECIAL INSTRUCTIONS:

**WO # 2001040****REQUESTED ANALYSIS**

SAMPLE ID	LOCATION / DESCRIPTION	SAMPLING		Matrix	Preser- ative	# Contain- ers	PH	Conductivity	Turbidity	TDS	EPT 2001.8 (As, Ba, Cd, Pb, Zn)		EPT 2001.7 (Na)		EPT 300.0 (Cl, SO4)	
		DATE	TIME													
-001	W01	1/23/20	11:15	W	Y	1					X X					
	W01	1/23/20	11:15	W	N	1		X X X X						X		
-005	W12	1/23/20	12:05	W	Y	1					X X					
	W12	1/23/20	12:05	W	N	1		X X X X						X		
-006	W302	1/23/20	9:45	W	Y	1					X X					
	W302	1/23/20	9:45	W	N	1		X X X X						X		
-008	W306	1/23/20	8:20	W	Y	1					X X					
	W306	1/23/20	8:20		N	1		X X X X						X		

RELINQUISHED BY: (SIGNATURE)

*Don Sh*

RELINQUISHED BY: (SIGNATURE)

RELINQUISHED BY: (SIGNATURE)

RECEIVED BY: (SIGNATURE)

*M. Kam*

DATE:

1/23/20

TIME:

13:00

DATE:

TIME:



## Analytical Services Department

7030 Gentry Road, Calipatria, CA 92233

Tel: (760) 348-4250

Fax: (760) 348-4222

## CHAIN OF CUSTODY RECORD

DATE: 1/23/20

PAGE: 3 OF 3

CUSTOMER/LOCATION: DVC		
ADDRESS:		
CITY:		
TEL:	FAX:	E-MAIL:
TURNAROUND TIME: <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS <input type="checkbox"/> 14 DAYS <input type="checkbox"/>		

SPECIAL REQUIREMENTS:  
 RWQCB REPORTING  ARCHIVE SAMPLES UNTIL / /

SPECIAL INSTRUCTIONS:  
 WO # 2001040

CUSTOMER PROJECT NAME/NUMBER: DVC Monitoring Wells 1Q20		
PROJECT CONTACT: Jenny Wu		
SAMPLER(S) (SIGNATURE) S. Miller		
P.O. NO.:	CHARGE TO:	LAB USE ONLY:
		COC# No 3601

## REQUESTED ANALYSIS

SAMPLE ID	LOCATION / DESCRIPTION	SAMPLING		Matrix	Preser- ative	# Contain- ers	TESTS							
		DATE	TIME				Conductivity	Turbidity	TDS	EPA 200.8 (Hg, Ba, Cd, Pb, Zn)	EPA 200.7 (Na)	EPA 300.0 (Cl, SO4)		
-004	W11	1/23/20	12:20	W	Y	1				XX				
	W11	1/23/20	12:20	W	N	1	XX	XX			X			
-007	W305	1/23/20	8:35	W	Y	1				XX				
	W305	1/23/20	8:35	W	N	1	XX	XX	XX		X			
-009	W307	1/23/20	9:50	W	Y	1				XX				
	W307	1/23/20	9:50	W	N	1	XX	XX	XX		X			
-010	W308	1/23/20	11:20	W	Y	1				XX				
	W308	1/23/20	11:20	W	N	1	XX	XX	XX		X			

RELINQUISHED BY: (SIGNATURE) Orval Ogle	RECEIVED BY: (SIGNATURE) M. Kam	DATE: 1/23/20	TIME: 13:00
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE:	TIME:
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE:	TIME:

### DVC Radiological Analysis - 1st Quarter 2020 (pCi/L)

W01				W09A			
Date	1/23/2020	CSU	MDA	Date	1/22/2020	CSU	MDA
Gross Alpha	23.3	32.4	66.3	Gross Alpha	59.8	34.9	53.4
Gross Beta	0.00	34.3	73.2	Gross Beta	34.9	36.7	74.1

W10A				W11			
Date	1/22/2020	CSU	MDA	Date	1/23/2020	CSU	MDA
Gross Alpha	83.9	78.8	152	Gross Alpha	48.6	37.9	68.1
Gross Beta	31.0	64.8	135	Gross Beta	86.6	35.8	62.1

W12				W302			
Date	1/23/2020	CSU	MDA	Date	1/23/2020	CSU	MDA
Gross Alpha	26.7	46.8	98.4	Gross Alpha	37.3	17.0	17.9
Gross Beta	41.3	61.5	126	Gross Beta	14.1	15.8	32.0

W305				W306			
Date	1/23/2020	CSU	MDA	Date	1/23/2020	CSU	MDA
Gross Alpha	19.1	14.6	25.0	Gross Alpha	4.07	7.99	17.1
Gross Beta	27.7	16.4	30.9	Gross Beta	0.00	9.27	19.7

W307				W308			
Date	1/23/2020	CSU	MDA	Date	1/23/2020	CSU	MDA
Gross Alpha	62.4	31.5	51.4	Gross Alpha	3.00	31.7	73.1
Gross Beta	25.8	18.5	35.4	Gross Beta	44.6	52.3	106

W309				W309 Duplicate			
Date	1/22/2020	CSU	MDA	Date	1/22/2020	CSU	MDA
Gross Alpha	15.8	13.7	25.1	Gross Alpha	13.8	11.1	19.4
Gross Beta	23.2	14.7	27.8	Gross Beta	22.0	14.4	27.5

CSU = Combined Standard Uncertainty (2-sigma)

MDA = Minimal Detected Activity

pCi/L = picocuries per liter



EBERLINE ANALYTICAL CORPORATION  
601 SCARBORO ROAD  
OAK RIDGE, TENNESSEE 37830  
PHONE (865) 481-0683  
FAX (865) 483-4621

EBS-OR-46791

February 21, 2020

Orval Osborne  
CalEnergy Operating Corporation  
7030 Gentry Road  
Calipatria, CA 92233

CASE NARRATIVE  
Work Order # 20-02009-OR

SAMPLE RECEIPT

This work order contains thirteen water samples received 02/03/2020. Samples were analyzed for Gross Alpha/Beta.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
W01	20-02009-04	W306	20-02009-11
W09A	20-02009-05	W307	20-02009-12
W10A	20-02009-06	W308	20-02009-13
W11	20-02009-07	W309	20-02009-14
W12	20-02009-08	W309 Duplicate	20-02009-15
W302	20-02009-09	Field Blank	20-02009-16
W305	20-02009-10		

ANALYTICAL METHODS

Gross Alpha/Beta was performed using EPA Method 900.0 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 1-sigma value.

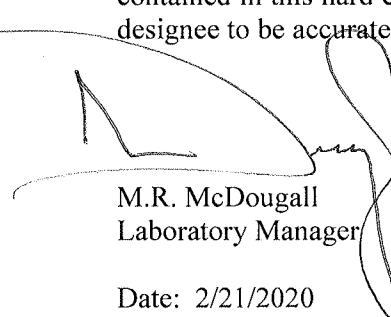
Minimum Detectable Activity (MDA) values for data represented in this report are sample-specific. MDA measurements are determined based on factors and conditions including instrument settings, aliquot size and matrix type.

GROSS ALPHA & BETA

Samples demonstrated acceptable results for all Gross Alpha and Beta analyses. Due to high total solids content, most results demonstrated slightly high method detection limits. The Gross Alpha and Beta method blank demonstrated acceptable results. Results for the Gross Alpha and Beta duplicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Gross Alpha and Beta laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M.R. McDougall  
Laboratory Manager

Date: 2/21/2020

Eberline Analytical wants and encourages your feedback regarding our performance providing radioanalytical services. Please visit <http://eberlineanalytical.com/> to provide us with feedback on our services.

<b>Eberline Analytical</b> <b>Final Report of Analysis</b>			Report To:				Work Order Details:						
			Orval Osborne				SDG:	20-02009					
			CalEnergy Operating Corp				Purchase Order:	110844					
			7030 Gentry Road				Analysis Category:	ENVIRONMENTAL					
			Calipatria, CA 92233				Sample Matrix:	WA					
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
20-02009-01	LCS	KNOWN	02/03/20 00:00	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	2.69E+02	1.15E+01			pCi/l
20-02009-01	LCS	SPIKE	02/03/20 00:00	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	2.86E+02	3.73E+00	3.15E+01	2.87E-01	pCi/l
20-02009-02	MBL	BLANK	02/03/20 00:00	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	-7.76E-02	1.48E-01	1.48E-01	3.68E-01	pCi/l
20-02009-03	DUP	W01	01/23/20 11:15	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	3.51E+01	3.97E+01	3.99E+01	7.94E+01	pCi/l
20-02009-04	DO	W01	01/23/20 11:15	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	2.33E+01	3.23E+01	3.24E+01	6.63E+01	pCi/l
20-02009-05	TRG	W09A	01/22/20 10:35	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	5.98E+01	3.43E+01	3.49E+01	5.34E+01	pCi/l
20-02009-06	TRG	W10A	01/22/20 09:28	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	8.39E+01	7.83E+01	7.88E+01	1.52E+02	pCi/l
20-02009-07	TRG	W11	01/23/20 12:20	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	4.86E+01	3.76E+01	3.79E+01	6.81E+01	pCi/l
20-02009-08	TRG	W12	01/23/20 12:05	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	2.67E+01	4.67E+01	4.68E+01	9.84E+01	pCi/l
20-02009-09	TRG	W302	01/23/20 09:45	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	3.73E+01	1.65E+01	1.70E+01	1.79E+01	pCi/l
20-02009-10	TRG	W305	01/23/20 08:35	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	1.91E+01	1.44E+01	1.46E+01	2.50E+01	pCi/l
20-02009-11	TRG	W306	01/23/20 08:20	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	4.07E+00	7.97E+00	7.99E+00	1.71E+01	pCi/l
20-02009-12	TRG	W307	01/23/20 09:50	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	6.24E+01	3.08E+01	3.15E+01	5.14E+01	pCi/l
20-02009-13	TRG	W308	01/23/20 11:20	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	3.00E+00	3.17E+01	3.17E+01	7.31E+01	pCi/l
20-02009-14	TRG	W309	01/22/20 07:44	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	1.58E+01	1.36E+01	1.37E+01	2.51E+01	pCi/l
20-02009-15	TRG	W309 Duplicate	01/22/20 07:43	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	1.38E+01	1.10E+01	1.11E+01	1.94E+01	pCi/l
20-02009-16	TRG	Field Blank	01/22/20 12:00	2/3/2020	2/11/2020	20-02009	Gross Alpha	EPA 900.0 Modified	1.94E-01	6.09E-01	6.10E-01	1.36E+00	pCi/l

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (1-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE ANALYTICAL CORPORATION

601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621

<b>Eberline Analytical</b> <b>Final Report of Analysis</b>		Report To:					Work Order Details:						
		Orval Osborne					SDG:	20-02009					
		CalEnergy Operating Corp					Purchase Order:	110844					
		7030 Gentry Road					Analysis Category:	ENVIRONMENTAL					
		Calipatria, CA 92233					Sample Matrix:	WA					
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
20-02009-01	LCS	KNOWN	02/03/20 00:00	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	2.65E+02	7.96E+00			pCi/l
20-02009-01	LCS	SPIKE	02/03/20 00:00	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	2.49E+02	2.91E+00	3.45E+01	5.68E-01	pCi/l
20-02009-02	MBL	BLANK	02/03/20 00:00	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	-2.64E-01	2.91E-01	2.93E-01	6.49E-01	pCi/l
20-02009-03	DUP	W01	01/23/20 11:15	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	-7.17E+00	3.39E+01	3.39E+01	7.31E+01	pCi/l
20-02009-04	DO	W01	01/23/20 11:15	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	0.00E+00	3.43E+01	3.43E+01	7.32E+01	pCi/l
20-02009-05	TRG	W09A	01/22/20 10:35	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	3.49E+01	3.64E+01	3.67E+01	7.41E+01	pCi/l
20-02009-06	TRG	W10A	01/22/20 09:28	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	3.10E+01	6.47E+01	6.48E+01	1.35E+02	pCi/l
20-02009-07	TRG	W11	01/23/20 12:20	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	8.66E+01	3.38E+01	3.58E+01	6.21E+01	pCi/l
20-02009-08	TRG	W12	01/23/20 12:05	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	4.13E+01	6.12E+01	6.15E+01	1.26E+02	pCi/l
20-02009-09	TRG	W302	01/23/20 09:45	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	1.41E+01	1.57E+01	1.58E+01	3.20E+01	pCi/l
20-02009-10	TRG	W305	01/23/20 08:35	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	2.77E+01	1.60E+01	1.64E+01	3.09E+01	pCi/l
20-02009-11	TRG	W306	01/23/20 08:20	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	0.00E+00	9.27E+00	9.27E+00	1.97E+01	pCi/l
20-02009-12	TRG	W307	01/23/20 09:50	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	2.58E+01	1.82E+01	1.85E+01	3.54E+01	pCi/l
20-02009-13	TRG	W308	01/23/20 11:20	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	4.46E+01	5.19E+01	5.23E+01	1.06E+02	pCi/l
20-02009-14	TRG	W309	01/22/20 07:44	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	2.32E+01	1.43E+01	1.47E+01	2.78E+01	pCi/l
20-02009-15	TRG	W309 Duplicate	01/22/20 07:43	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	2.20E+01	1.41E+01	1.44E+01	2.75E+01	pCi/l
20-02009-16	TRG	Field Blank	01/22/20 12:00	2/3/2020	2/11/2020	20-02009	Gross Beta	EPA 900.0 Modified	-1.16E-01	1.24E+00	1.24E+00	2.68E+00	pCi/l

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (1-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE ANALYTICAL CORPORATION

601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621

20-02009

20-02009

REC'D FEB 03 2020

## EBERLINE ANALYTICAL CORPORATION

## Standard CHAIN OF CUSTODY RECORD

601 Scarboro Road, Oak Ridge, TN 37830

Tel 865-481-0683 ♦ Fax 865-483-4621 ♦ www.eberlineanalytical.com

LAB WKO# \_\_\_\_\_

CLIENT NAME: CalEnergy Operating Corporation		PROJECT: DVC GWM 1Q20				ANALYSES REQUESTED						SPECIAL HANDLING					
ADDRESS: 7030 Gentry Road Calipatria, CA 92233		PHONE: (760) 348-4241 FAX: (760) 348-4222 EMAIL: <a href="mailto:Orval.Osborne@calenergy.com">Orval.Osborne@calenergy.com</a> <a href="mailto:Mahesh.Kaur@calenergy.com">Mahesh.Kaur@calenergy.com</a>										<input type="checkbox"/> Other: _____					
PROJECT MANAGER Orval Osborne		SAMPLER: A. Corral/S. Miller/R. Lee										<input type="checkbox"/> 24 Hour Rush 100%					
ID# (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SMPL TYPE	Cl <sub>2</sub> Y/N	SAMPLE IDENTIFICATION/SITE LOCATION			# OF CONT.	Gross Alpha	Gross Beta							<input type="checkbox"/> 48-72 Hour Rush 75%
	01/23/20	11:15	AQ		W01 4			1	X	X							<input type="checkbox"/> 4 - 5 Day Rush 30%
	01/22/20	10:35	AQ		W09A 5			1	X	X							<input checked="" type="checkbox"/> 15 Business Days = Dec 21
	01/22/20	9:28	AQ		W10A 6			1	X	X							<input checked="" type="checkbox"/> NTAT 28 Days
	01/23/20	12:20	AQ		W11 7			1	X	X							<input type="checkbox"/> QA/QC Data Package
	01/23/20	12:05	AQ		W12 8			1	X	X							<input checked="" type="checkbox"/> X Level II Summary Report
	01/23/20	9:45	AQ		W302 9			1	X	X							<input type="checkbox"/> Method of Shipment: UPS
	01/23/20	8:35	AQ		W305 10			1	X	X							<input type="checkbox"/> COMMENTS Lab Sample ID
	01/23/20	8:20	AQ		W306 11			1	X	X							
	01/23/20	9:50	AQ		W307 12			1	X	X							
	01/23/20	11:20	AQ		W308 13			1	X	X							
	01/22/20	7:44	AQ		W309 14			1	X	X							
	01/22/20	7:43	AQ		W309 Duplicate 14 15			1	X	X							
	01/22/20	12:00	AQ		Field Blank 16			1	X	X							
RELINQUISHED BY 		DATE / TIME 1/29/2020 15:00		RECEIVED BY				DATE / TIME		SAMPLE CONDITION:						SAMPLE TYPE CODE:	
RELINQUISHED BY		DATE / TIME		RECEIVED BY 				DATE / TIME 2/3/2020 10:15 am		Actual Temperature: Received On Ice Y / N Preserved Y / N Evidence Seals Present Y / N Container Attacked Y / N Preserved at Lab Y / N						AQ=Aqueous NA= Non Aqueous SL = Sludge DW = Drinking Water WW = Waste Water FL = air filter GW = Ground Water SO = Soil SW = Solid Waste OL = Oil OT = Other Matrix	
RELINQUISHED BY		DATE / TIME		RECEIVED BY 				DATE / TIME									
PRESCHEDULED RUSH ANALYSES WILL TAKE PRIORITY OVER UNSCHEDULED RUSH REQUESTS		SPECIAL REQUIREMENTS / BILLING INFORMATION Send electronic invoices to <a href="mailto:payables@calenergy.com">payables@calenergy.com</a> CPA # 110844														CDC worksheet 012727	

## **Attachment G**

Part II C.1. & Part II.C.2. - Leachate Collection System Monitoring Data

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## **Table: II.A.5. Cell 1 Leachate Collection System**

Wednesday, April 22, 2020

Note: A "0" indicates that there was no liquid present.

	<b>Gallons</b>	<b>Leachate pH</b>			<b>Leachate Conductivity</b>		
		<i>Avg.</i>	<i>Max.</i>	<i>Min.</i>	<i>Avg.</i>	<i>Max.</i>	<i>Min.</i>
					micromohs/cm		
January 2020	285	6.2	6.2	6.1	111580	113200	110400
February 2020	295	6.2	6.2	6.2	111300	111700	110800
March 2020	390	6.2	6.2	6.2	110800	111300	110200
<b>Summary for Report</b>	<b>970</b>	<b>6.2</b>	<b>6.2</b>	<b>6.1</b>	<b>111254</b>	<b>113200</b>	<b>110200</b>

---

## **Table: II.A.5. Cell 2 Leachate Collection System**

Wednesday, April 22, 2020

Note: A "0" indicates that there was no liquid present.

	Gallons	Leachate pH				Leachate Conductivity		
		Avg.	Max.	Min.	Avg.	micromohs/cm		
						Max.	Min.	
January 2020	3960	4.8	4.9	4.8	235200	236700	232600	
February 2020	2610	4.8	4.9	4.8	233125	235100	231200	
March 2020	2570	4.8	4.9	4.8	235175	239200	231200	
<b>Summary for Report</b>	<b>9140</b>	<b>4.8</b>	<b>4.9</b>	<b>4.8</b>	<b>234554</b>	<b>239200</b>	<b>231200</b>	

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**Table: II.A.5. Cell 3 Leachate Collection System**

Wednesday, April 22, 2020

Note: A "0" indicates that there was no liquid present.

	Leachate pH			Leachate Conductivity		
	Gallons	Avg.	Max. Min.	Avg.	Max.	Min.
January 2020	0					
February 2020	0					
March 2020	0					
<b>Summary for Report</b>	<b>0</b>					

## **Attachment H**

**Part II D.a. & Part II.D.b. - Leak Detection System Monitoring Data**

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**Table: II.A.6. Cell 1 Leak Detection System**

Wednesday, April 22, 2020

Note: A "0" indicates that there was no liquid present.

	Leachate pH			Leachate Conductivity		
	Gallons	Avg.	Max. Min.	Avg.	Max.	Min.
January 2020	0					
February 2020	0					
March 2020	0					
<b>Summary for Report</b>	<b>0</b>					

---

**Table: II.A.6. Cell 2 Leak Detection System**

Wednesday, April 22, 2020

Note: A "0" indicates that there was no liquid present.

	Leachate pH			Leachate Conductivity		
	Gallons	Avg.	Max. Min.	Avg.	Max.	Min.
January 2020	0					
February 2020	0					
March 2020	0					
<b>Summary for Report</b>	<b>0</b>					

---

**Table: II.A.6. Cell 3 Leak Detection System**

Wednesday, April 22, 2020

Note: A "0" indicates that there was no liquid present.

	Leachate pH			Leachate Conductivity		
	Gallons	Avg.	Max. Min.	Avg.	Max.	Min.
January 2020	0					
February 2020	0					
March 2020	0					
<b>Summary for Report</b>	<b>0</b>					

## **Attachment I**

Part II E.a- Quarterly Vadose Zone Monitoring Data

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-2 NORTH

DEPTH Feet	19-Jun-2019 MOISTURE %	13-Sep-2019 MOISTURE %	19-Dec-2019 MOISTURE %	25-Mar-2020 MOISTURE %
1	7.10	7.31	6.97	7.15
2	20.43	21.79	21.22	20.29
3	17.41	18.34	17.60	17.32
4	16.57	17.22	17.29	16.14
5	19.88	21.14	20.86	20.44
6	15.91	16.95	16.65	16.67
7	18.13	18.52	18.09	18.37
8	18.64	19.20	19.11	18.53
9	22.83	22.89	23.75	24.07
10	18.84	19.39	18.60	18.95
11	18.58	19.48	18.29	18.47
12	19.12	20.16	18.76	18.83
13	19.52	20.25	19.02	19.12
14	19.13	20.25	19.22	18.80
15	18.13	19.75	19.08	18.99
16	18.82	20.10	19.04	19.46
17	16.65	17.23	17.47	17.05
18	12.49	13.20	12.44	12.62
19	13.31	13.87	13.31	13.27
20	12.93	13.47	13.42	12.74
21	11.30	11.53	11.83	11.34
22	12.44	12.79	12.11	12.64
23	14.63	15.40	14.21	15.03
24	14.30	15.92	15.15	15.22
25	14.85	15.70	15.29	15.61
26	5.07	5.58	5.26	4.91
27	3.75	3.38	3.98	3.81
28	1.31	1.67	1.83	1.24
29	9.09	9.07	9.46	9.29
30	6.64	7.44	7.19	6.70
31	7.98	8.88	9.75	8.00
32	6.19	6.55	6.06	6.23
33	3.16	3.27	3.62	3.26
34	7.83	8.29	8.43	7.81
35	11.05	11.35	11.16	11.29

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-2 NORTH

DEPTH Feet	19-Jun-2019 MOISTURE %	13-Sep-2019 MOISTURE %	19-Dec-2019 MOISTURE %	25-Mar-2020 MOISTURE %
36	8.14	8.77	8.76	8.43
37	3.51	4.15	3.59	3.36
38	6.80	7.67	7.84	6.84
39	5.79	6.21	6.41	6.25
40	7.80	8.43	8.88	8.50
41	11.24	11.86	11.44	11.27
42	16.85	18.57	16.67	16.86
43	14.01	14.27	13.74	14.08
44	16.74	15.73	14.74	15.17
45	11.89	12.55	12.55	11.89
46	13.94	14.65	15.29	14.29
47	15.02	15.40	15.39	14.63
48	14.14	14.62	15.09	14.48
49	14.86	15.87	14.97	14.87
50	21.50	22.06	23.86	22.02
51	22.49	22.87	24.22	22.69
52	16.90	16.84	N/A	17.59
53	24.71	24.73	N/A	24.58
54	22.25	23.30	N/A	22.51
55	20.29	20.51	N/A	20.06
56	25.54	25.89	N/A	25.32
57	25.69	26.88	N/A	25.78
58	25.09	26.29	N/A	26.15
59	25.00	25.80	N/A	26.02
60	26.72	27.39	N/A	27.08
61	26.04	26.62	N/A	26.50
62	26.07	25.70	N/A	26.19
63	28.93	28.67	N/A	N/A
64	N/A	N/A	N/A	N/A
65	N/A	N/A	N/A	N/A
66	N/A	N/A	N/A	N/A

N/A - Not Available

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-3 EAST

DEPTH Feet	19-Jun-2019 MOISTURE %	12-Sep-2019 MOISTURE %	19-Dec-2019 MOISTURE %	25-Mar-2020 MOISTURE %
1	14.66	13.48	13.99	14.63
2	13.41	13.52	13.07	13.60
3	18.25	17.87	17.62	18.42
4	18.73	19.11	18.63	18.22
5	19.62	20.25	19.85	20.37
6	16.51	17.26	17.52	17.58
7	18.03	19.40	18.78	18.93
8	18.36	19.60	19.55	19.23
9	17.91	18.42	19.09	18.72
10	20.21	20.83	20.23	20.00
11	20.99	21.49	21.87	21.71
12	21.90	22.39	22.24	22.26
13	21.58	21.62	21.78	21.48
14	19.20	19.77	20.75	19.89
15	19.94	20.19	20.00	20.22
16	26.45	26.20	25.75	25.34
17	23.93	24.49	23.81	24.17
18	21.39	22.20	22.11	21.60
19	20.15	19.79	19.90	19.87
20	19.82	20.73	20.88	20.74
21	20.86	21.43	21.75	22.54
22	11.21	11.58	11.21	11.62
23	8.72	8.51	8.50	8.27
24	12.73	12.84	12.84	12.90
25	13.52	13.41	13.64	13.53
26	12.86	12.81	12.77	12.64
27	17.06	17.57	17.19	17.16
28	8.84	9.12	9.25	9.27
29	10.93	11.34	11.39	10.71
30	13.43	13.94	13.52	13.52
31	20.67	20.84	20.93	20.31
32	20.40	21.45	21.65	20.85
33	21.24	21.41	21.33	21.45
34	18.26	19.00	18.46	18.19
35	17.80	17.99	17.75	17.94

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-3 EAST

DEPTH Feet	19-Jun-2019 MOISTURE %	12-Sep-2019 MOISTURE %	19-Dec-2019 MOISTURE %	25-Mar-2020 MOISTURE %
36	20.69	21.15	21.21	20.87
37	22.77	22.93	22.33	21.84
38	20.84	21.42	21.25	20.96
39	20.95	21.22	21.19	21.21
40	21.16	21.23	21.20	21.60
41	21.50	21.59	21.93	21.53
42	20.40	21.25	21.32	20.73
43	21.30	22.52	21.70	21.62
44	22.39	23.12	22.51	22.77
45	21.60	22.22	22.61	21.27
46	19.76	20.65	19.90	19.88
47	16.41	16.33	16.58	15.92
48	18.97	19.16	19.22	19.24
49	22.07	22.71	21.70	22.06
50	21.29	22.08	21.78	22.34
51	19.55	20.05	20.28	19.50
52	14.40	14.32	14.44	14.24
53	17.64	18.10	17.13	17.53
54	22.26	22.85	23.01	22.25
55	17.26	17.62	17.29	17.22
56	20.05	20.07	19.17	19.41
57	21.61	21.83	21.22	20.77
58	13.21	13.65	13.16	13.41
59	16.90	17.56	17.09	17.15
60	16.87	17.73	17.19	17.06
61	15.34	15.77	15.71	15.44
62	15.56	16.15	16.22	15.81
63	14.71	14.90	14.47	14.07
64	16.54	16.94	16.25	16.46
65	17.21	18.00	17.51	17.26
66	20.57	21.10	20.52	20.48

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-4 SOUTH

DEPTH Feet	18-Jun-2019 MOISTURE %	6-Sep-2019 MOISTURE %	12-Dec-2019 MOISTURE %	27-Mar-2020 MOISTURE %
1	8.45	8.53	8.36	8.46
2	11.96	12.19	11.95	12.20
3	11.60	12.01	12.31	12.48
4	13.46	14.00	13.58	13.70
5	14.36	14.99	14.92	14.20
6	14.72	15.21	15.36	15.24
7	17.03	17.66	17.92	18.20
8	17.67	18.72	18.13	18.67
9	15.60	16.27	16.39	16.09
10	15.43	16.16	15.71	15.36
11	15.08	15.01	14.86	14.93
12	16.93	16.73	16.54	16.54
13	17.51	18.42	18.45	17.65
14	16.03	17.11	16.71	15.59
15	15.04	15.39	15.43	15.10
16	16.23	16.59	16.54	16.24
17	14.38	14.98	14.46	14.59
18	14.81	14.38	15.06	14.77
19	16.12	16.57	16.09	16.25
20	16.81	16.53	16.95	16.40
21	14.90	15.43	14.71	14.85
22	8.44	8.70	7.99	8.53
23	9.65	10.10	10.19	10.53
24	15.03	15.62	15.40	14.98
25	15.59	16.44	16.40	15.74
26	14.35	13.98	14.14	13.93
27	9.02	8.97	9.24	8.75
28	8.47	8.43	9.03	8.82
29	9.52	10.06	9.94	9.45
30	9.24	9.81	9.65	9.95
31	11.20	11.44	11.62	11.64
32	13.35	13.98	13.86	13.60
33	15.07	14.67	15.00	14.90
34	10.71	11.04	10.80	10.45
35	8.80	9.27	9.38	8.71

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-4 SOUTH

DEPTH Feet	13-Feb-2019 MOISTURE %	6-Sep-2019 MOISTURE %	12-Dec-2019 MOISTURE %	27-Mar-2020 MOISTURE %
36	7.24	7.76	7.55	7.03
37	7.94	7.96	7.84	7.98
38	6.70	7.18	7.12	6.80
39	7.14	8.23	7.91	7.67
40	8.77	9.27	8.99	8.93
41	6.52	7.33	6.76	6.86
42	6.29	6.51	6.75	6.65
43	9.97	10.04	9.83	10.14
44	10.50	11.19	10.91	10.50
45	11.29	12.10	11.47	11.34
46	13.28	12.82	12.23	12.23
47	17.38	17.75	17.38	17.41
48	17.25	17.18	16.99	17.20
49	13.56	13.77	13.57	13.55
50	0.01	-0.02	-0.02	-0.07
51	-0.42	-0.23	-0.43	-0.20
52	1.10	1.26	1.34	1.33
53	4.42	4.55	4.95	5.16
54	6.50	6.75	6.72	6.39
55	6.05	6.25	6.07	6.14
56	7.16	7.26	7.19	7.16
57	7.12	6.94	7.14	6.93
58	7.08	7.37	7.19	6.99
59	6.92	7.56	6.83	6.84
60	6.69	7.22	6.93	6.78
61	7.18	7.89	7.36	7.24
62	7.44	7.70	8.05	7.99
63	8.58	8.75	8.40	8.85
64	8.96	9.23	9.26	9.43
65	13.28	13.46	13.94	13.22
66	20.91	20.96	21.07	20.87
67	17.09	17.36	16.98	16.74
68	14.58	15.79	14.38	14.64
69	13.63	14.44	13.74	13.96
70	27.24	28.58	28.29	27.65
71	30.30	31.56	31.03	29.99
72	25.26	26.16	25.46	26.27
73	23.83	25.24	25.74	25.15

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-5 NORTH

DEPTH Feet	14-Mar-2019 MOISTURE %	13-Sep-2019 MOISTURE %	13-Dec-2019 MOISTURE %	30-Mar-2020 MOISTURE %
1	4.40	4.03	3.68	4.07
2	8.29	8.67	8.18	8.30
3	13.91	14.51	13.50	13.51
4	14.79	15.31	15.07	15.03
5	15.52	16.22	15.94	16.16
6	17.52	18.19	17.81	17.72
7	17.72	18.64	17.73	17.63
8	17.50	18.35	17.93	18.01
9	16.52	17.35	17.08	17.05
10	18.99	19.50	18.78	19.32
11	18.56	19.14	18.66	18.64
12	17.67	18.61	17.94	18.52
13	14.90	15.23	14.95	15.07
14	13.85	14.18	13.78	13.71
15	12.07	12.59	12.25	12.39
16	15.75	16.30	15.95	15.94
17	14.29	14.99	14.17	14.04
18	13.67	14.38	14.11	13.85
19	17.22	17.37	17.58	17.21
20	13.93	14.36	14.20	14.09
21	9.24	9.63	9.03	9.57
22	8.98	9.15	9.11	9.37
23	9.26	9.94	9.39	9.18
24	8.43	9.05	8.19	8.45
25	7.85	8.42	8.01	7.98
26	9.59	10.18	9.57	9.75
27	9.37	9.23	8.97	8.98
28	8.25	8.81	8.04	8.24
29	8.26	7.90	8.13	8.25
30	8.56	9.21	8.54	8.52
31	7.34	7.35	7.28	8.50
32	7.71	8.14	7.92	7.90
33	18.43	18.68	18.12	17.76
34	15.83	16.66	15.95	16.15
35	11.24	11.11	11.70	11.69

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-5 NORTH

DEPTH Feet	14-Mar-2019 MOISTURE %	13-Sep-2019 MOISTURE %	13-Dec-2019 MOISTURE %	30-Mar-2020 MOISTURE %
36	11.54	12.10	11.91	11.94
37	9.33	9.39	9.23	9.12
38	7.95	8.56	7.94	7.96
39	6.59	6.97	6.82	6.74
40	9.42	9.91	9.74	9.73
41	15.43	15.79	15.27	15.25
42	18.27	18.90	18.19	18.02
43	15.40	16.73	16.36	16.45
44	20.59	20.82	20.33	20.29
45	17.10	17.15	17.23	17.21
46	10.03	10.40	10.01	10.00
47	18.07	18.00	17.91	17.88
48	18.39	18.57	18.31	18.14
49	20.24	21.17	20.57	20.61
50	22.69	23.38	22.98	22.52
51	21.82	22.28	22.65	22.53
52	18.67	19.55	19.92	18.87
53	18.29	18.89	18.35	18.11
54	17.37	19.06	17.87	17.48
55	21.64	21.95	22.04	22.02
56	20.94	22.18	21.56	21.26
57	21.11	21.48	21.45	21.19
58	21.52	21.43	21.72	21.65
59	26.98	27.12	27.06	26.08
60	25.64	26.10	25.75	25.21
61	25.02	25.56	25.90	25.07
62	25.12	25.15	24.82	24.59
63	25.32	26.22	25.57	24.74
64	24.98	25.71	24.58	24.66
65	22.53	23.53	23.28	22.52
66	23.75	23.99	24.07	23.64
67	25.93	25.80	26.79	26.30
68	26.22	26.42	26.84	25.36
69	26.57	26.71	26.70	25.98
70	37.12	38.99	38.01	37.74
71	41.30	41.76	41.66	41.00
72	40.61	41.75	41.44	40.98
73	36.70	38.38	36.85	37.37

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-6 NORTH

DEPTH Feet	19-Jun-2019 MOISTURE %	6-Sep-2019 MOISTURE %	13-Dec-2019 MOISTURE %	30-Mar-2020 MOISTURE %
1	2.93	2.89	2.95	3.24
2	6.68	7.26	6.80	6.62
3	9.79	10.01	9.80	10.17
4	11.71	12.76	12.37	12.52
5	13.10	13.93	13.49	12.95
6	17.27	18.63	17.32	17.22
7	15.33	16.91	16.35	15.51
8	16.33	17.60	16.83	15.84
9	17.83	19.42	18.18	17.37
10	16.87	18.71	18.05	16.75
11	19.33	20.34	19.90	19.77
12	18.76	19.82	19.92	19.82
13	12.92	13.76	13.65	13.44
14	13.31	13.90	13.84	13.49
15	11.04	12.18	11.54	11.78
16	13.58	14.24	14.07	14.16
17	12.90	13.34	13.20	12.97
18	14.70	15.68	14.87	15.47
19	14.50	15.35	14.57	14.23
20	12.60	13.85	13.32	13.53
21	10.71	11.50	11.22	10.64
22	11.80	11.72	11.51	11.79
23	4.25	4.93	4.30	4.33
24	3.11	4.04	3.59	3.39
25	4.55	5.39	4.90	4.47
26	5.27	5.71	4.97	5.47
27	4.41	4.96	4.70	4.38
28	6.08	6.03	6.19	6.06
29	2.40	2.46	2.35	2.31
30	4.11	4.37	4.36	4.18
31	6.15	7.38	6.68	6.41
32	11.70	12.86	13.36	11.88
33	18.83	19.17	19.58	19.19
34	13.17	14.09	14.16	13.55
35	8.66	8.34	8.33	8.32

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-6 NORTH

DEPTH Feet	19-Jun-2019 MOISTURE %	6-Sep-2019 MOISTURE %	13-Dec-2019 MOISTURE %	30-Mar-2020 MOISTURE %
36	7.77	8.89	8.73	8.22
37	12.77	14.13	14.00	13.46
38	9.81	10.83	10.49	10.63
39	6.36	6.86	6.85	6.46
40	11.10	11.25	11.55	10.73
41	18.31	19.17	19.63	18.72
42	12.26	12.33	12.47	12.11
43	10.83	10.81	10.69	10.84
44	18.40	18.95	18.73	18.65
45	8.76	9.42	8.84	8.85
46	17.73	17.84	17.57	17.57
47	24.41	25.07	23.83	24.59
48	23.65	24.69	23.66	23.42
49	24.53	26.28	24.87	24.48
50	24.54	25.66	24.60	25.07
51	18.70	19.45	18.30	18.04
52	17.45	18.67	16.61	18.16
53	25.70	27.00	26.04	24.67
54	26.14	27.67	26.69	26.15
55	27.24	27.45	27.06	26.56
56	27.02	27.51	26.90	26.31
57	26.80	26.90	26.44	26.21
58	26.23	27.25	26.95	25.42
59	27.24	28.55	27.81	27.36
60	26.95	27.28	26.83	27.51
61	28.45	28.91	28.58	28.86
62	26.78	27.47	27.33	26.76
63	25.21	26.31	24.37	25.12
64	25.02	25.88	26.11	25.58
65	22.41	23.75	24.03	22.85
66	24.37	25.23	25.26	25.75
67	26.66	26.15	26.76	26.58
68	26.02	26.06	25.93	26.14
69	29.66	29.33	29.92	29.57
70	33.46	34.77	35.92	35.71

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-7 WEST

DEPTH Feet	18-Jun-2019 MOISTURE %	12-Sep-2019 MOISTURE %	12-Dec-2019 MOISTURE %	27-Mar-2020 MOISTURE %
1	5.60	5.49	8.18	8.80
2	9.01	8.70	9.75	9.87
3	10.32	10.33	10.77	10.75
4	11.31	11.44	11.77	11.59
5	12.55	13.15	12.90	12.84
6	12.68	12.97	12.80	12.97
7	12.72	13.11	12.86	12.70
8	11.45	12.23	11.81	13.05
9	13.05	13.58	13.21	12.99
10	13.15	13.63	13.02	12.84
11	14.61	15.25	15.12	14.55
12	14.69	15.57	15.41	14.83
13	12.93	13.43	13.32	12.76
14	13.67	14.21	13.94	13.87
15	13.88	13.98	14.54	14.04
16	14.44	14.49	14.26	13.91
17	13.93	14.42	13.83	14.01
18	14.46	14.74	14.97	14.60
19	14.71	15.29	14.81	14.65
20	10.97	11.68	11.16	11.43
21	10.66	10.99	11.13	11.05
22	8.44	8.73	8.46	8.29
23	8.15	8.47	8.01	8.33
24	8.44	9.12	8.92	8.99
25	9.43	9.72	9.57	9.51
26	11.59	11.93	11.45	11.50
27	8.76	8.76	8.47	8.37
28	7.45	7.48	7.67	7.30
29	9.35	9.36	9.55	9.20
30	9.06	9.55	9.48	9.32
31	7.85	8.20	8.21	7.82
32	7.52	7.88	7.84	7.64
33	8.31	8.50	8.46	8.20
34	10.19	10.68	10.39	10.21
35	7.29	7.63	7.51	7.28

DESERT VALLEY COMPANY  
VADOSE MOISTURE REPORT  
PIPE Z-7 WEST

DEPTH Feet	13-Feb-2019 MOISTURE %	12-Sep-2019 MOISTURE %	12-Dec-2019 MOISTURE %	27-Mar-2020 MOISTURE %
36	8.23	8.54	8.56	8.57
37	8.89	9.13	9.00	9.07
38	9.91	10.14	10.04	9.34
39	10.61	11.09	11.03	10.83
40	12.71	13.13	12.61	12.72
41	16.58	17.53	17.18	16.78
42	17.60	17.95	17.65	17.78
43	14.93	14.92	14.88	14.64
44	14.09	14.70	14.24	14.44
45	7.86	8.12	8.04	8.02
46	9.40	9.92	9.66	9.43
47	10.09	10.36	9.82	10.03
48	10.55	10.74	10.47	10.48
49	10.87	10.79	10.96	10.39
50	7.78	8.20	8.05	8.08
51	5.40	5.48	5.42	5.57
52	5.91	6.18	6.14	6.04
53	13.71	14.42	14.21	14.04
54	10.83	10.87	11.07	10.86
55	11.55	12.20	12.10	12.10
56	14.09	14.72	14.22	14.58
57	20.54	20.67	20.77	20.71
58	15.26	15.74	15.51	15.46
59	21.53	22.82	23.72	22.80
60	19.76	21.02	20.87	20.58
61	17.74	17.38	17.40	17.61
62	16.39	17.13	16.65	16.52
63	17.69	17.80	17.74	17.83
64	18.20	18.69	18.41	18.61
65	22.67	23.50	23.21	22.84
66	23.68	24.06	23.48	23.75
67	23.02	23.61	23.23	23.34
68	23.93	24.87	25.43	24.66
69	32.20	33.16	32.93	32.79

## **Attachment J**

California Registered Professional Geologist Review



## REVIEW OF MONITORING REPORT BY PROFESSIONAL GEOLOGIST

Waste Discharge Requirements  
For  
Magma Power Company, Owner  
Desert Valley Company, Owner/Operator  
Desert Valley Monofill Class II Solid Waste Management Facility  
Northwest of Westmorland – Imperial County  
Permit Dated June 30, 2016

**Regional Board WDID No. 7A 13 2197 001**  
**Board Order R7-2016-0016**  
**Facility Name: Desert Valley Monofill**

Terraphase Engineering (Terraphase) has reviewed the report, prepared by the Desert Valley Company, titled *Desert Valley Company Class II Solid Waste Management Facility, Quarterly Detection Monitoring Report for January – March 2020, Regional Board WDID No. 7A 13 2197 001, Board Order No. R7-2016-0016*. This report was prepared as required by Monitoring and Reporting Program (MRP) R7-2016-0016.

Based on Terraphase's inquiry of the person or persons who generated this report, the information, is to the best of Terraphase's knowledge, true, complete, and complies with Order No. R7-2016-0016.

April 27, 2020

A handwritten signature in blue ink that appears to read "Clare Steedman".



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Clare Steedman, PG (9033)  
Principal Geologist  
Terraphase Engineering, Inc.  
Irvine, California